Eagle Tugs

THE POWER TO MOVE YOU

Parts and Service Manual

Vehicle Types: TT-4, TT-5, TT-6, & TT-8

Engine Type: Yanmar Diesel 4TNV98 Tier II & Tier III Engine Models

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Introduction

From everyone at Eagle Tugs, we would like to say Thank You for purchasing an Eagle TT-series tow tractor. We take a lot of pride in the quality of the products that we build, as well as our continued customer service. Our goal is to build a long term relationship with our customers. We want you, the customer, to be 100% satisfied with your Eagle experience. To us, this means that your Eagle TT-series tractor is functionally superior to any other products you have used. This also means that your Eagle product is continually supported in a professional, timely manner.

Purpose & Use of This Manual

This manual is designed as a reference guide to make the reader more familiar with the components of the Eagle TT-4, TT-5, TT-6, and TT-8 tow tractor models. This manual includes part numbers and descriptions to assist the reader in ordering component spare/service parts. The manual also outlines the Scheduled Maintenance Intervals recommended by Eagle in order to keep your vehicle running properly. In this manual you will also find the Eagle Standard Warranty on all of the TT-series tow tractors. However, for more detailed information on the Eagle Warranty and procedure, as well as information pertaining to the safe operation of your Eagle product, please see the Eagle Operations Manual that was also included with your vehicle.

Technical Assistance

When addressing a repair procedure or operational problem, please remember that Eagle technical support is only a phone call away. Eagle technicians are available to assist you in vehicle diagnostics and recommended repair procedures. We encourage you to use this service to reduce machine down-time and to gain a better understanding of proper repair procedures.

Ordering Spare/Service Parts

Eagle inventories most of the component parts found in its TT-series tow tractors, and most spare/service parts can be shipped the same day the order is received. Parts orders need to be received at Eagle by 12:00 pm (Noon) EST in order for the parts to be shipped that same day. Parts ordered after 12:00 pm EST will most likely be shipped the following day.

NOTE: Please check our website periodically for manual updates as well as service bulletins.

Eagle Corporate Office
26111 Northline Rd
Taylor, MI 48180
(800) 671-0431
www.eagletugs.com

Customer Service
customerservice@eagletugs.com
(734) 442-1000 -- (800) 671-0431

Parts & Service
parts@eagletugs.com
(734) 442-1000 -- (800) 671-0431

Technical Support
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Warranty

Warranty Information

Please read the Eagle Tugs warranty statement (available on our website) carefully.

When contacting Eagle Tugs for warranty or parts service, please have the following information ready:

- Tractor model number
- Tractor serial number
- Current hour reading

Warranty

Important Safety Notice

Appropriate service methods and proper repair procedures are essential for the safe, reliable operation of all industrial engines as well as the personal safety of the individual performing the work. This Service Manual provides general directions for accomplishing service and repair work with tested and effective techniques. Following them will help assure reliability.

There are numerous variations in procedures, techniques, tools and parts for servicing equipment, as well as in the skill of the individual doing the work. This Manual cannot possibly anticipate all such variations and provide advice or cautions as to each. Accordingly, anyone who departs from the instructions provided in this Manual must first establish he compromises his/her personal safety, and/or the equipment integrity by his/her choice of methods, tools or parts.

Warnings

The following list contains some general WARNINGS that you should follow when you work on equipment:

- Always wear safety glasses for eye protection.
- Use safety stands whenever a procedure requires you to be under the equipment.
- Be sure that the ignitions switch is always in the OFF position, unless otherwise required by the procedure.
- Set the parking brake (if equipped) when working on the equipment. Place wood blocks (4" x 4" or larger) to the front and rear surfaces of the tires to provide further restraint from inadvertent equipment movement.
- Operate the engine only in a well-ventilated area to avoid the danger of carbon monoxide.
- Keep yourself and your clothing away from moving parts when the engine is running, especially the fan and belts.
- To prevent serious burns, avoid contact with hot metal parts such as the radiator, exhaust manifold, tail pipe, catalytic converter and muffler.
- Do not smoke while working on the equipment.
- To avoid injury, always remove rings, watches, loose hanging jewelry, and loose clothing before beginning to work on the equipment. Tie long hair securely behind the head.
- Keep hands and other objects clear of the radiator and blades.

For more information regarding safety please refer to the operations manual provided with your tug. This manual can also be found on the Eagle Tugs website at www.eagletugs.com.

Warranty

Vehicle ID Information

This information can be found on the tractor's I.D. Plate located on the firewall next to the driver's seat. Additionally, there is a permanent serial number located on the rear bulkhead inside the engine compartment.

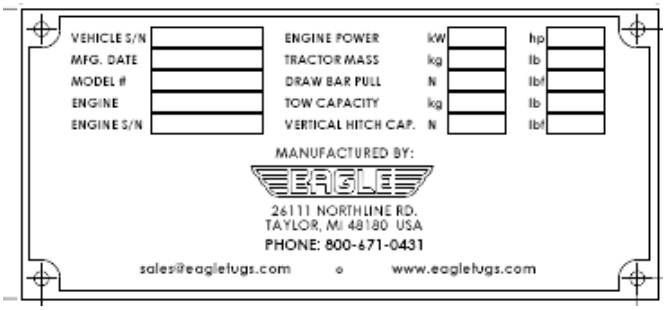
MODEL _____

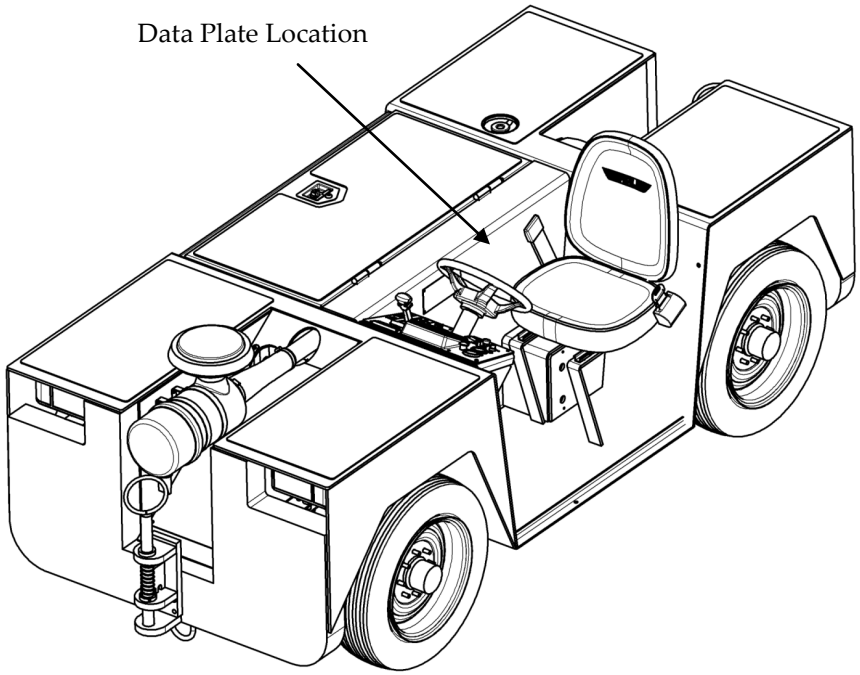
SERIAL NO _____

MFG DATE _____

ENGINE TYPE _____

ENGINE SERIAL NO _____





Warranty

Warranty Registration Information

Please complete and return the Eagle Tugs Warranty Registration Card provided your tug or fill out and submit on line at www.eagletugs.com.

Yanmar Engine Warranty Registration Information

The following pertains to warranty regarding the Yanmar engine only. For warranty issues not related to the engine in your tug please contact Eagle Tugs directly at 800-671-0431.

The Purchaser should register the Product as soon as possible after purchase. Registration may allow Yanmar to provide Product updates, Product improvements and other important information to the Purchaser. Registration will also make processing a future warranty claim more efficient and convenient for the Purchaser and Yanmar. A Purchaser should register the Product on-line by entering the required information into the Customer Registration screens found on Yanmar's website at http://www.yanmar.co.jp. To register product(click on the Customer Registration link. Go to Industrial Engines and then click on the Industrial Engine link. Enter the registration information in the necessary fields.

Authorized Yanmar Distributor Information

The Yanmar Distributor Information can be found on the Yanmar website at

www.yanmar.com/industrial/dealerlocatormainmap.asp. If you need help finding a distributor in your area please call Eagle Tugs at 800-671-0431.

Tires

For tire warranty please contact Eagle directly by phone at 800-671-0431, by email at support@eagletugs.com or through our website at www.eagletugs.com .

Battery

In the U.S. and Canada, call 1-888-823-0954 or 1-877-255-2287

Outside the Continental U.S. and Canada please contact Eagle directly.

NOTE: At the time a warranty claim is filed it may be necessary for Eagle Tugs to request a copy the maintenance records kept on your tug. For your convenience a printable Preventative Maintenance Schedule page is available in the Maintenance section of this manual.

WARRANTY

Eagle Tugs Service Bulletin

ESB-02-08

Date: October 14, 2008

Affected Models: Diesel powered TT series tow tractors

Subject: Tier 3/Stage IIIA diesel engine fuel requirements

Background:

The EPA mandated change to Tier 3 diesel engines and EC directives for Stage IIIA diesel engines with higher emission requirements has caused some changes to recommended and acceptable fuels. This document will clarify those requirements as they pertain to Eagle Tugs' products.

Tier 2:

Eagle Tugs is currently phasing out Tier 2 engines as part of EPA and EC mandated controls. These engines will no longer be available for sale unless part of a military exemption, or being exported to non-conforming countries.

Tier 2 engines will run on standard diesel fuels 1-D and 2-D with sulfur content up to 5000ppm without modification.

Tier 2 engines will run on jet fuels Jet-A and JP8 with either lubricity filter / additives, or OEM fuel system modifications to accomodate the lower lubricity jet fuels.

Tier 3 / Stage IIIA:

Eagle Tugs is currently phasing in Tier 3 / Stage IIIA conforming engines per EPA and EC mandates.

Tier 3 engines will run on fuels with sulfur content of less than 500 ppm or .05% without modification. This includes fuels commonly referred to Low Sulfur Diesel (LSD) and Ultra Low Sulfur Diesel (ULDS).

Tier 3 engines will NOT run properly on Jet-A or JP8 fuel due to the high sulfur content. The EGR system on tier 3 engines allows sulfur in the fuel to recirculate from the exhaust back into the intake where it is converted to sulfuric acid which corrodes internal engine components. In the future as jet fuel standards are directed towards lower sulfur content, this may change.

Tabulated Data:

	High-Sulfur Diesel Fuel	LSD or ULSD Fuel	JetA and JP8
Tier 2	No modification necessary	No modification necessary	Requires lubricity enhancement or engine modification
Tier 3 / Stage IIIA	Not acceptable	No modification necessary	Not acceptable

If you have any questions, please contact Eagle technical support at 734-442-1000.

Revision 1, 10/15/08

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Service Parts Illustrations & Detail

Identification Key

The following abbreviations are used throughout the parts lists in this section.

Abbreviation	Meaning	Purpose
NL	Not Listed	Part required but not shown on diagram
NPN	No Part Number	Parts shown and numbered, but not stocked and sold by Eagle. Typically used for bolts, clamps, etc…
AR	As required	

TO HELP US SERVICE YOU BETTER. HAVE TUG MODEL AND SERIAL NUMBER AVAILABLE WHEN ORDERING PARTS

NOTE: THIS MANUAL COVERS PARTS & SERVICE FOR EAGLE TT4—TT8 2WD AND ALL WHEEL DRIVE MODELS WITH BOTH THE YANMAR TIER II AND TIER III ENGINES. PLEASE BE SURE TO CHECK THE HEADING ON EACH PAGE TO SEE IF THE PARTS REFERENCED ARE FOR A :

YANMAR TIER II DIESEL
OR
YANMAR TIER III DIESEL

ALL PAGES WITHOUT THE ABOVE IN THE DESCRIPTION DENOTE PARTS ARE USED ON MODELS POWERED WITH BOTH A YANMAR TIER II AND YANMAR TIER III ENGINE.

TO DETERMINE IF YOUR TUG IS POWERED BY A TIER II OR TIER III ENGINE YOU CAN CHECK THE DISPLAY LOCATED ON THE DASHBOARD BY THE FOLLOWING.

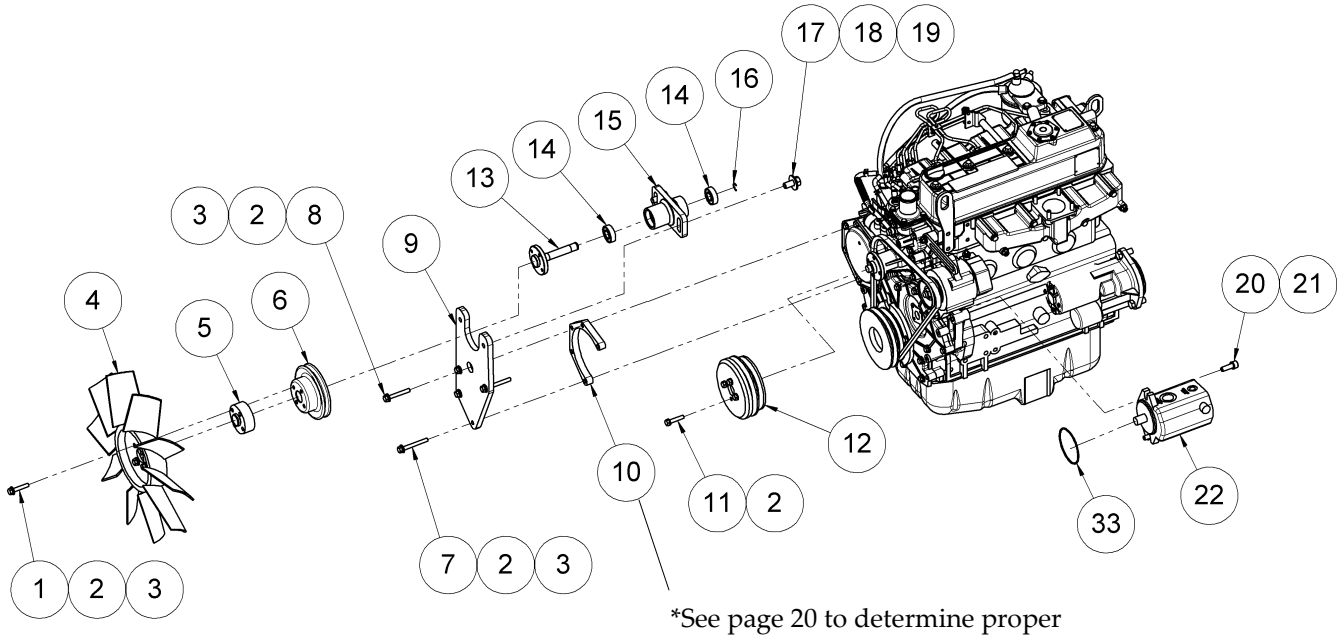
1. TURN DISPLAY "ON"
2. PRESS ENTER
3. SCROLL TO "EAGLE SET UP"
4. PRESS ENTER
5. YOU WILL SEE "SELECT ENGINE : YANMAR TIER II OR YANMAR TIER III" ON YOUR SCREEN

TO DETERMINE IF YOUR TUG IS POWERED BY A TIER II OR TIER III ENGINE WITHOUT TURNING ON DISPLAY.

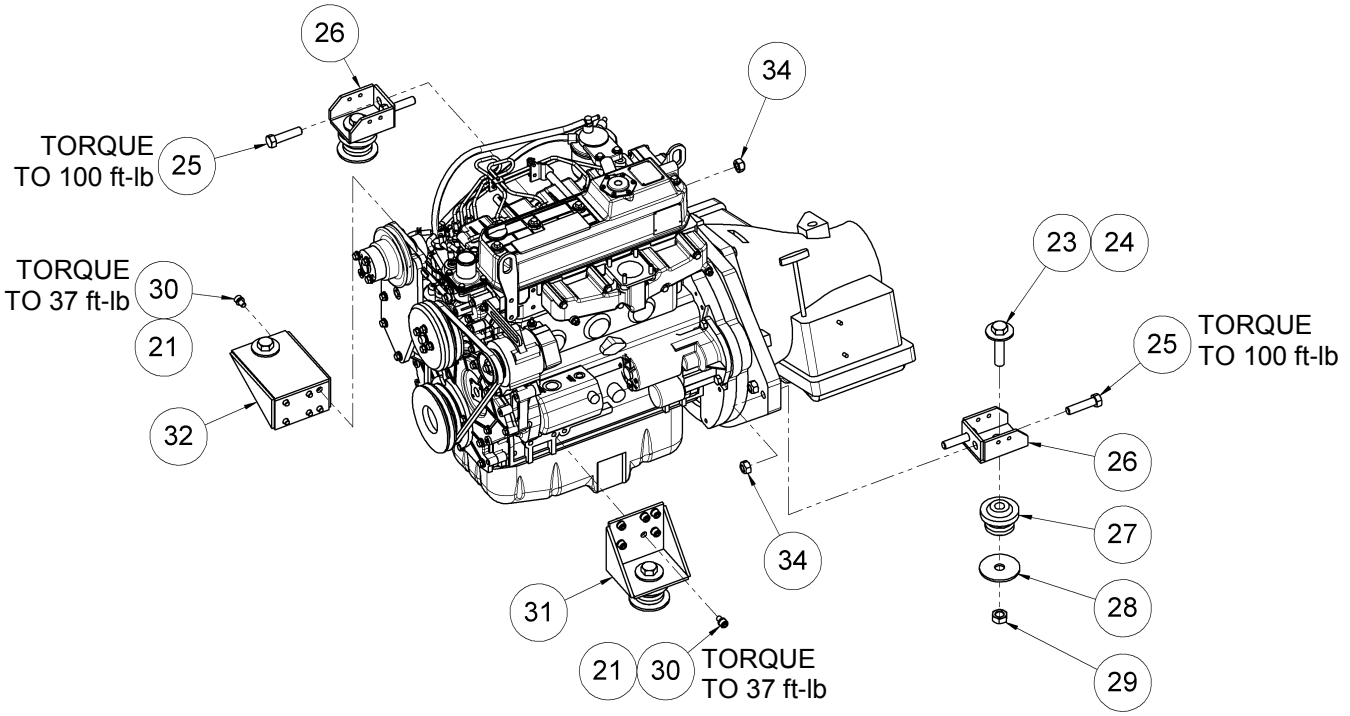
ALL TIER II TUGS ARE EQUIPPED WITH A MANUAL ALUMINUM FOOT PEDAL AND ALL TIER III TUGS ARE EQUIPEED WITH A BLACK PLASTIC ELECTRONIC FOOT PEDAL.

Power train

ENGINE DRESS - FAN ASSEMBLY, PRINCE PUMP, AND MOTOR MOUNTS



*See page 20 to determine proper spacer (item 10) needed

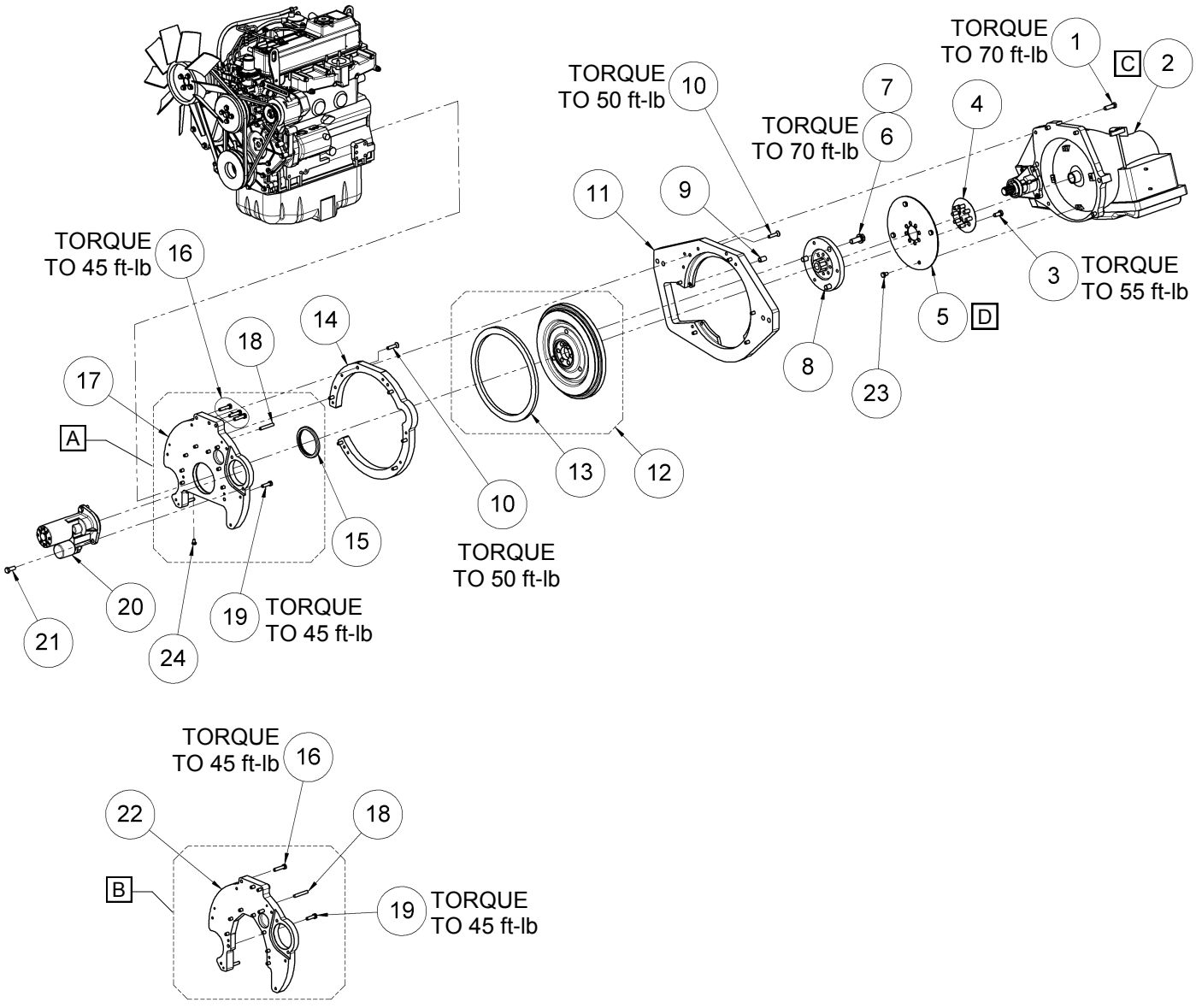


POWER TRAIN

Item	Part Number	Qty.	Description
1	NPN	4	HCS, M8X1.25 X 45
2	NPN	13	LOCK WASHER, M8
3	NPN	9	FLAT WASHER, 1/4
4	A-TT8-00312	1	FAN
5	A-TT8-00360	1	FAN SPACER
6	129900-42450	1	PULLEY (INCLUDED WITH ENGINE)
7	NPN	4	HCS, M8X1.25 X 70
8	NPN	1	HCS, M8X1.25 X 60
9	A-TT8-00354	1	REMOTE FAN BRACKET
10	NPN	1	FAN BRACKET SPACER (SEE PG. 20)
11	NPN	4	HCS, M8X1.25 X 40
12	A-TT8-00353	1	WATER PUMP SHEAVE
13	A-TT8-00356	1	REMOTE FAN SHAFT
14	A-TT8-00357	2	REMOTE FAN BEARING
15	A-TT8-00355	1	REMOTE FAN SHAFT HOUSING
16	A-TT8-00358	1	REMOTE FAN SNAP RING
17	NPN	2	HCS, 1/2-13 UNC X 1.25
18	NPN	2	FLAT WASHER, 1/2
19	NPN	2	LOCK WASHER, 1/2
20	NPN	2	SHCS, M10X1.5 X 30
21	NPN	14	LOCK WASHER, 3/8
22	SP20PB11L145H9L	1	PRINCE PUMP
23	NPN	4	HCS, 3/4-10 UNC X 3.5
24	NPN	4	FLAT WASHER, 3/4
25	NPN	4	HCS, 5/8-11 UNC X 2.5, GR 8, ZN PLATED
26	A-TT4-00011	2	ENGINE MOUNT TRANS PLATE
27	A-TT5D-00013-1	4	ISOLATOR
28	A-TT5D-00010	4	LORD WASHER
29	NPN	4	LOCK NUT, 3/4-10 UNC
30	NPN	12	SHCS, M10X1.5 X 25, GR 10.9
31	A-TT4-00012	1	MOTOR MOUNT - B
32	A-TT4-00013	1	MOTOR MOUNT - A
33	24321-000850	1	PTO GASKET (INCLUDED WITH ENGINE)
34	NPN	4	LOCK NUT, 5/8-11 UNC

POWER TRAIN

ENGINE DRESS - TRANSMISSION



A Used on engines not equipped with integrated rear crank seal.

B Used on engines with integrated rear crank seal.

C See ESB-01-15 Service Bulletin for proper transmission identification. Assembly as shown is current production.

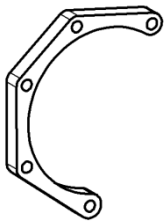
D Install with stamped "D" facing toward transmission.

Power train

Item	Part Number	Qty.	Description
1	NPN	4	SHCS, M12X1.75 X 40, GR 10.9
2	TT08-54-003-KA	1	TRANSMISSION - AWD
2	TT08-54-005-KA	1	TRANSMISSION - 2WD
3	NPN	8	HCS, M12X1.75 X 25, GR 10.9, ZN PLATED
4	TM27C00305-ID	1	FLEX PLATE WASHER
5	B-TT10TD-00016-ID	1	FLEX PLATE
6	NPN	3	HCS, M16X2.0 X 45
7	NPN	3	LOCK WASHER, M16
8	B-TT5D-00017-4TNV	1	FLEX PLATE ADAPTER
9	5240849	2	TRANS DOWEL PIN
10	NPN	12	FHCS, M10X1.50 X 45, GR 10.9
11	B-TT10TD-00001-4TNV	1	TRANS PLATE
12	129953-21570	1	FLY WHEEL ASSEMBLY (CONTAINS ITEM 13)
13	129900-21600	1	RING GEAR
14	B-TT10TD-00002	1	TRANS PLATE SPACER
15	129916-01790	1	OIL SEAL
16	NPN	3	HCS, M10X1.5 X 45, GR 10.9, ZN PLATED
17	TMD27B00521-4TNV	1	ENGINE PLATE
18	41HN28	3	ADJ PLATE DOWEL PIN, 3/8 X 2.5
19	NPN	9	HCS, M10X1.5 X 35, GR 10.9, ZN PLATED
20	129940-77010	1	STARTER
21	NPN	2	HCS, M12X1.75 X 25
22	TMD27B00521-T3SPEC	1	ENGINE PLATE
23	NPN	4	HCS, M10X1.5 X 12
24	NPN	6	HCS, M8X1.25 X 12

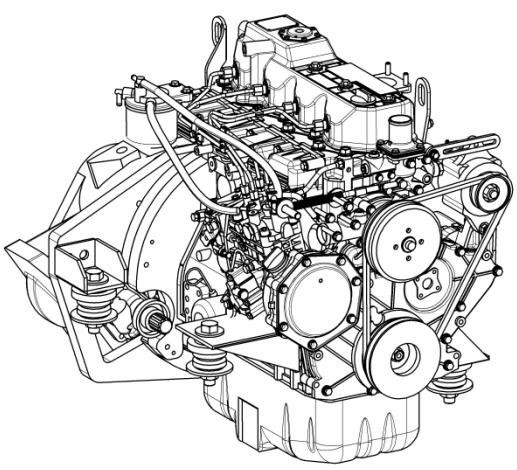
Power train

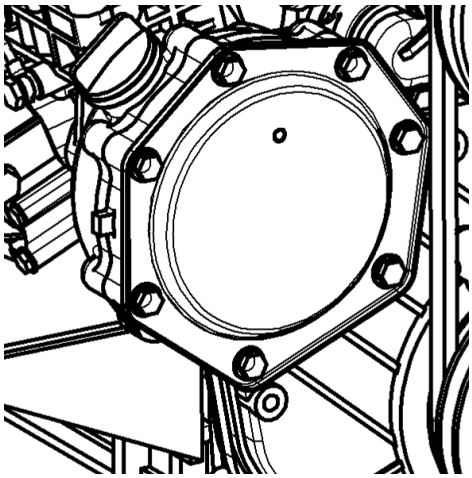
Choosing the Correct Fan Bracket Spacer



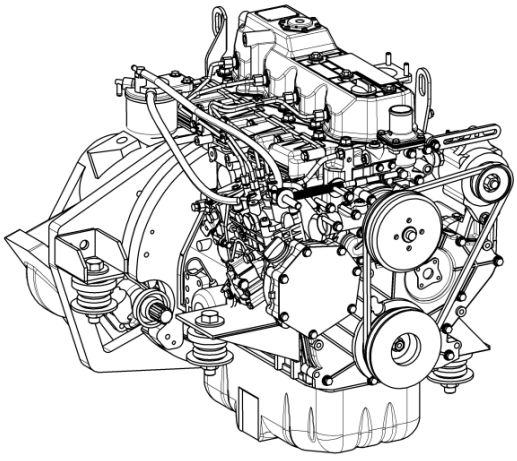
The fan bracket spacer shown above comes in two different versions. Version A-TT8-00361 is .625" thick. Version A-TT8-00363 is .50" thick. Using this guide will make determining which version you need very easy.

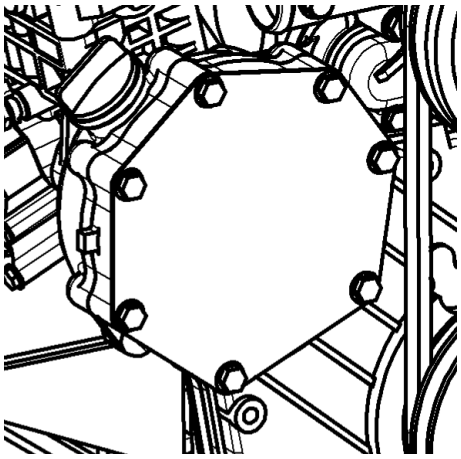
Version A-TT8-00361: This part should be used if the cover circled below is a stamped part with a dome in the center and a ridge around the outside as shown:





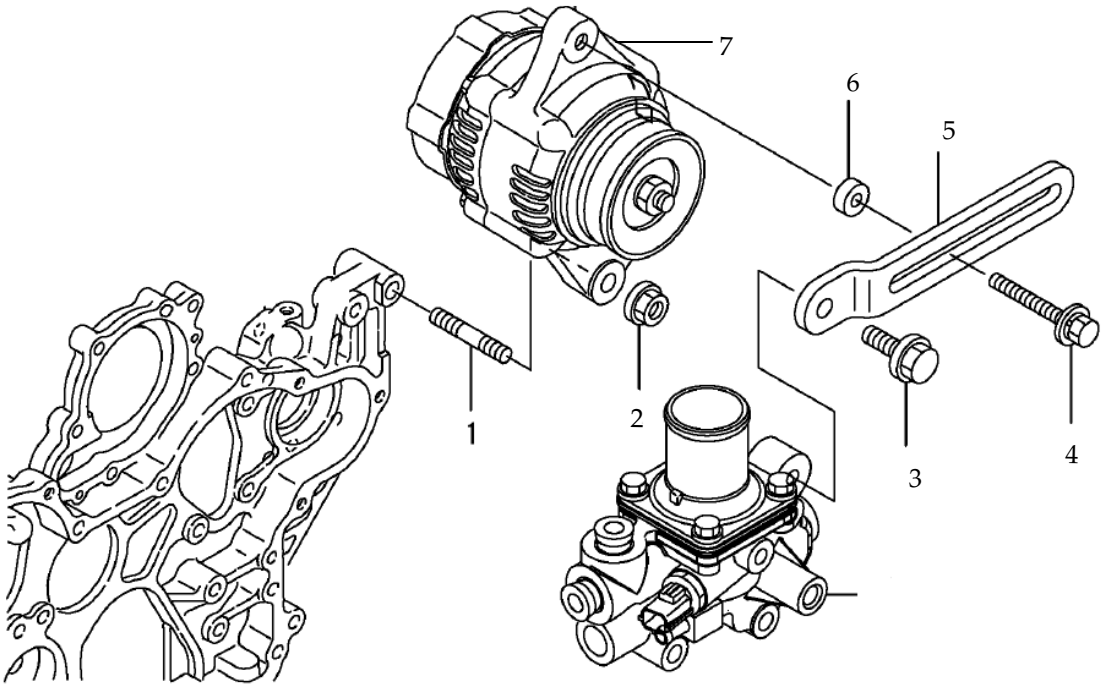
Version A-TT8-00363: This part should be used if the cover circled below is a flat sheet as shown:





POWER TRAIN

55 AND 80 AMP ALTERNATOR ASSEMBLY

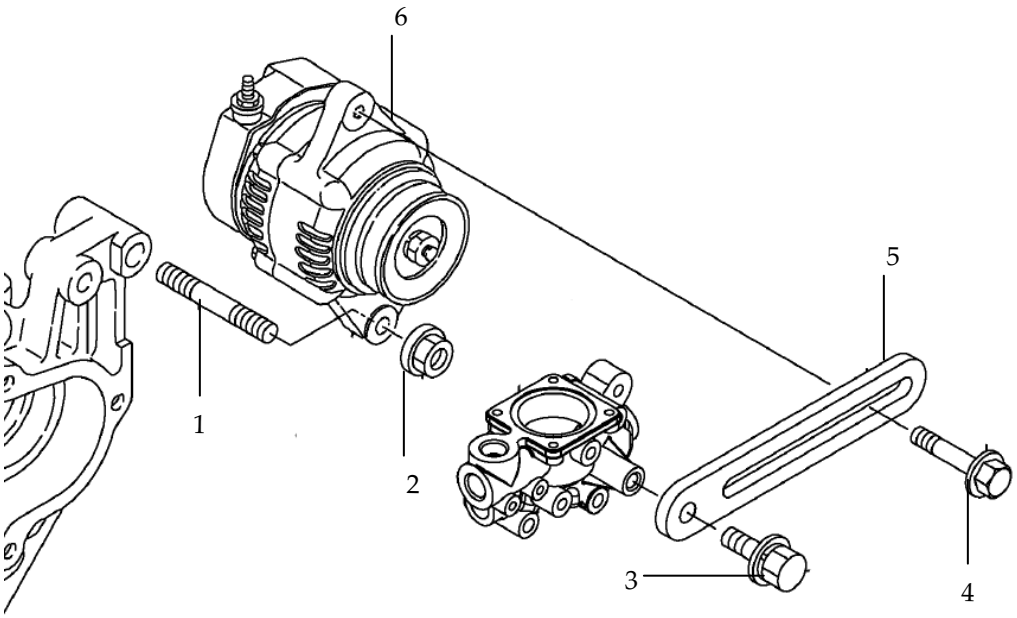


Item	Part Number	Qty	Description
1	129795-01900	1	STUD, ALTERNATOR 55 AMP ALT
1	26116-101202	1	STUD, ALTERNATOR 80 AMP ALT
2	26306-100002	2	NUT, ALTERNATOR 55 AMP ALT
2	26366-100002	2	NUT, ALTERNATOR 80 AMP ALT
3	26106-080222	1	BOLT, M8 X 22 PLATED 55 AMP ALT
3	26014-080252	2	STUD 80 AMP ALT
4	129972-77341	1	BOLT ,ADJUSTING
5	129972-77330	1	ADJUSTER BRACKET 55 AMP ALT
5	129900-77330 or 129900-77330-MOD	1	ADJUSTER BRACKET 80 AMP ALT
6	119940-77270	1	SPACER 55 AMP ALT (RED ID TAG)
6	129470-77340	1	SPACER 80 AMP ALT
7	119626-77210	1	ALTERNATOR 55 AMP
7	129908-77200	1	ALTERNATOR 80 AMP
8	25132-004200	1	ALTERNATOR BELT NOT SHOWN

**55 AMP ALTERNATORS 10-07 THRU 1-08 **80 AMP ALTERNATORS THERE AFTER . **TRANSIT PRO MODELS MAY BE EQUIPPED WITH AN OPTIONAL 105 AMP ALTERNATOR.

POWER TRAIN

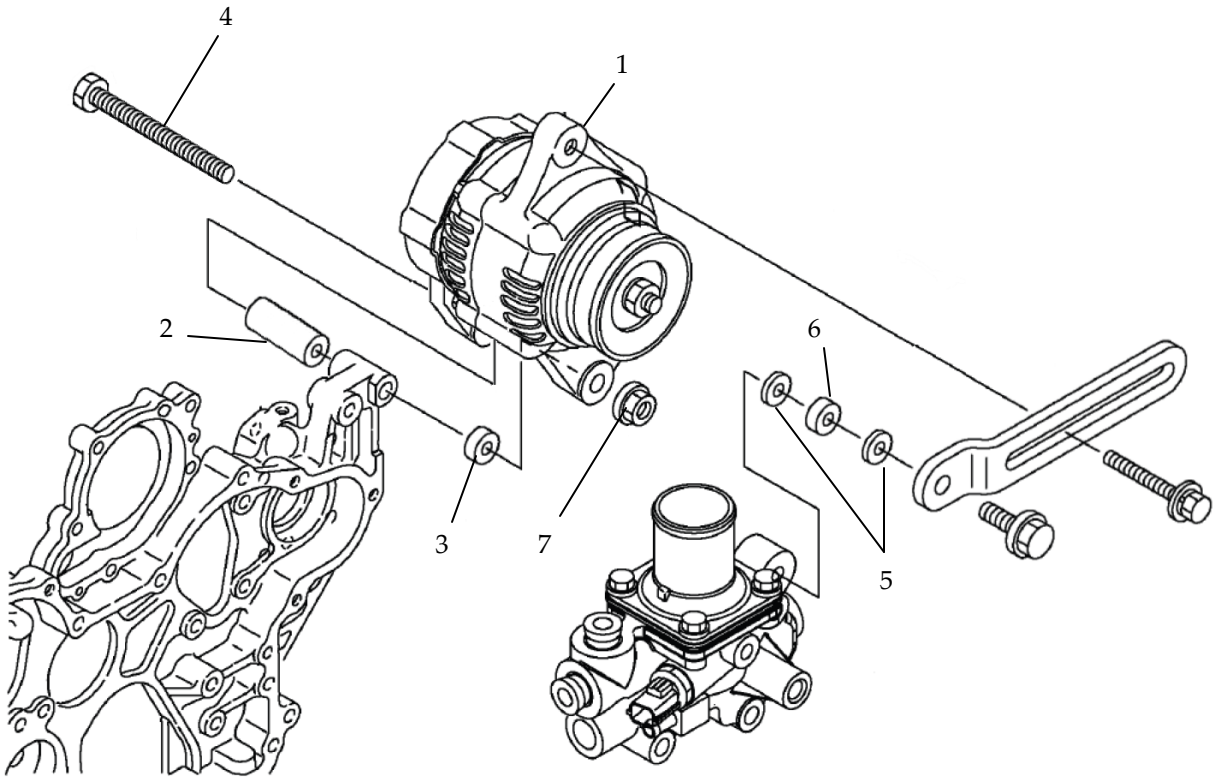
40 AMP ALTERNATOR ASSEMBLY



Item	Part Number	Qty	Description
1	129795-01900	1	STUD, ALTERNATOR
2	26306-100002	2	NUT, ALTERNATOR
3	26014-080252	1	BOLT, M8 X 25 PLATED
4	119810-77340	1	BOLT ,ADJUSTING
5	129900-77330	1	ADJUSTER BRACKET, ALTERNATOR 40 AMP
6	129423-77200	1	ALTERNATOR 40 AMP(BLUE ID TAG)
10	129211-77920	1	TIMER
11	25132-004150	1	ALTERNATOR BELT NOT SHOWN

POWER TRAIN

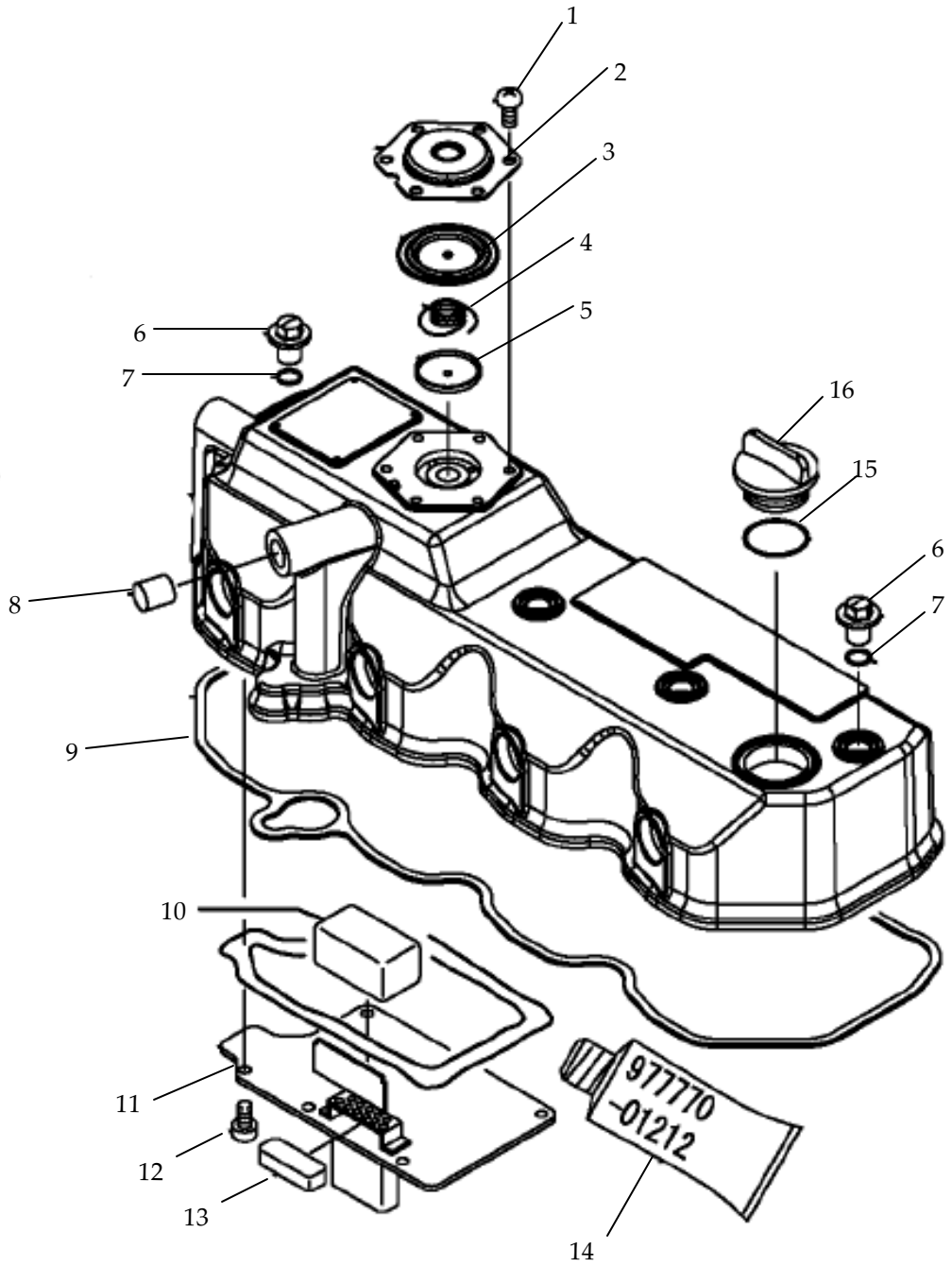
105 AMP HIGH OUTPUT ALTERNATOR ASSEMBLY
(INSTALLED ON SOME UNITS PRIOR TO APRIL, 2015)



Item	Part Number	Qty	Description
1	AE-OPT-0021	1	105A ALTERNATOR
2	NPN	1	1.40 SPACER
3	NPN	1	.23 SPACER
4	NPN	1	M10-1.5 x 130
5	NPN	2	5/16 FLAT WASHER
6	119940-77270	1	SPACER
7	26306-100002	1	M10-1.5 LOCK NUT
8	9440	1	ALTERNATOR BELT(NOT SHOWN)

Power train

HEAD COVER ASSEMBLY



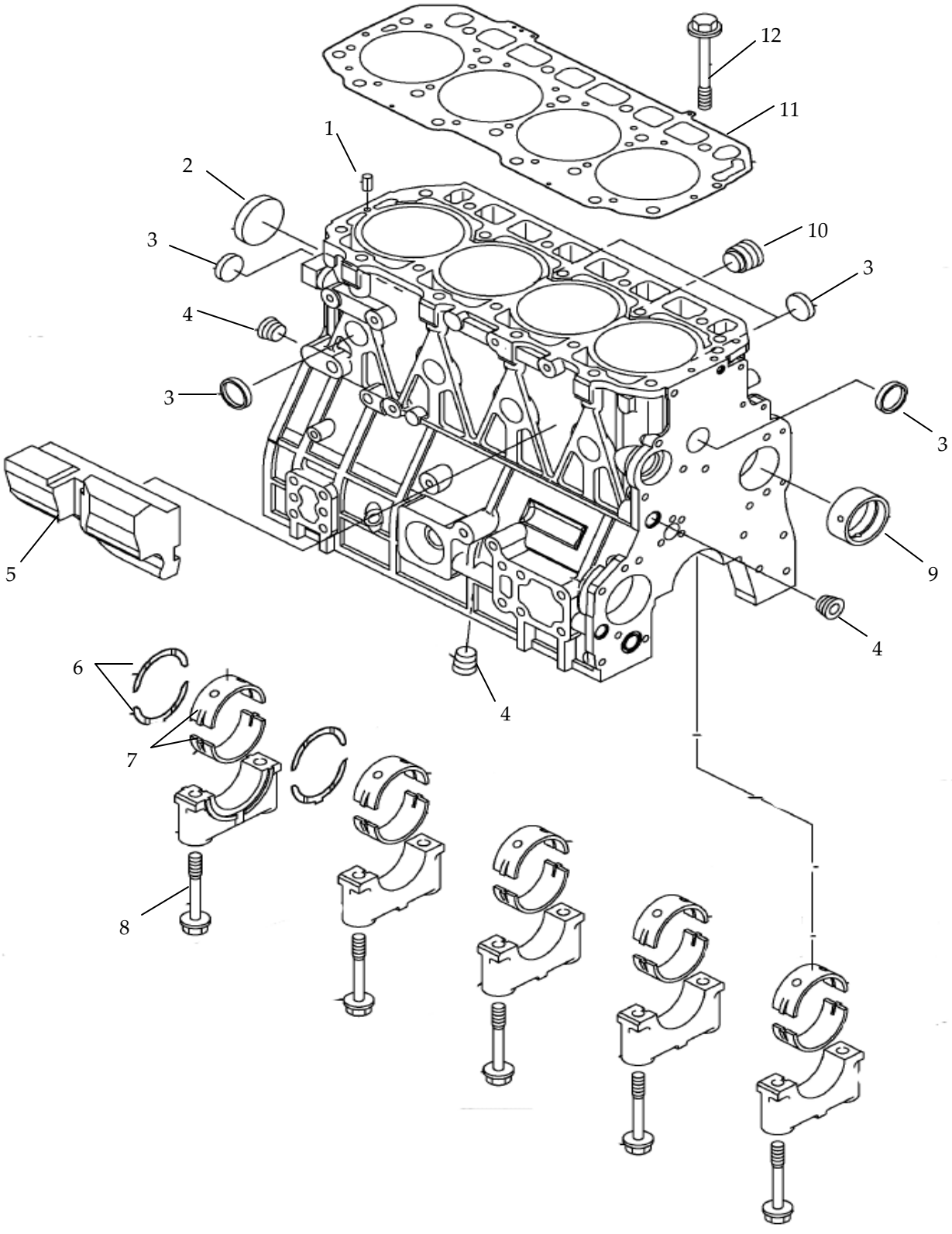
POWER TRAIN

HEAD COVER ASSEMBLY

Item	Part Number	Qty	Description
1	22857-500100	6	SCREW 5 X 10 TAPIING
2	123907-03120	1	PLATE, BREATHER
3	123907-03100	1	DIAPHRAM, BREATHER
4	123907-03140	1	SPRING, DIAPHRAM
5	123907-03110	1	CENTER PLATE
6	124160-11360	4	KNOB
7	24311-000120	4	O-RING 1A P12.0
8	119640-61400	1	PLUG
9	129907-11310	1	HEAD COVER GASKET
10	129907-03070	1	BAFFLE
11	129907-03010	1	BAFFLE PLATE
12	22857-500100	6	SCREW 5 X 10 TAPIING
13	129907-03060	1	BAFFLE
14	977770-01212	1	GASKET, LIQUID
15	24311-000320	1	O-RING 1A P32.0
16	124160-01751	1	OIL FILLER CAP
17	129907-11320	1	HEAD COVER ASSY INCLUDES ITEMS 1-13

POWER TRAIN

CYLINDER BLOCK ASSEMBLY—YANMAR TIER II DIESEL



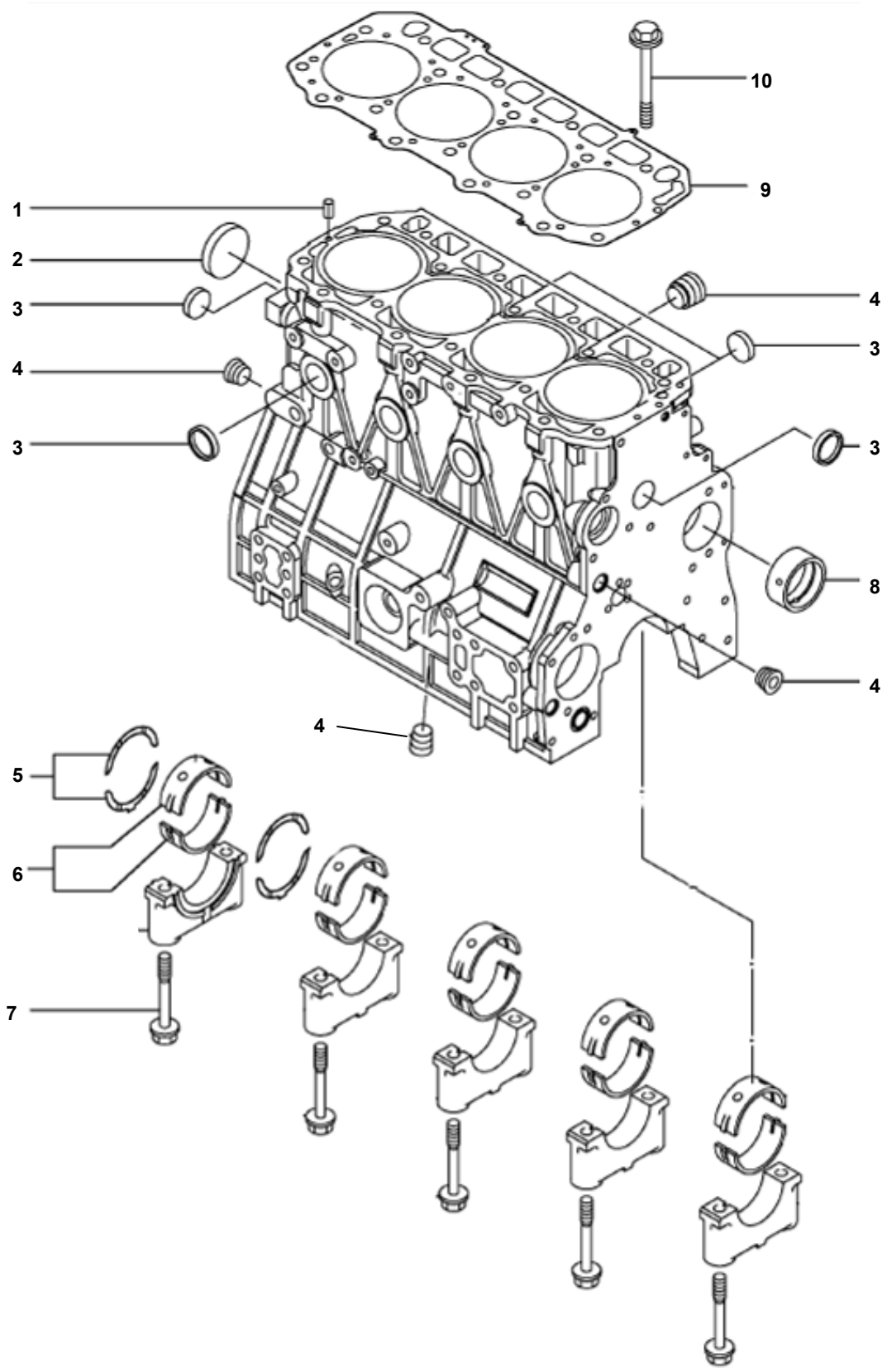
POWER TRAIN

CYLINDER BLOCK ASSEMBLY—YANMAR TIER II

Item	Part Number	Qty	Description
1	22351-060012	2	SPRING PIN 6 X 12
2	129900-01250	1	PLUG 55
3	27241-300000	8	PLUG 30
4	23876-030000	3	PLUG PT 3/8 SCREW
5	129907-01190	1	SPACER
6	129900-02930	2	BEARING ASSY, THRUST
6	129900-02940	2	BEARING ASSY, THRUST O/S=.025
7	729900-02800	5	MAIN BEARING SET
7	129900-02340	5	MAIN BEARING SET O/S=.025
8	129900-02020	10	BOLT, METAL CAP
9	129900-02410	1	BUSH, CAMSHAFT
10	171051-01921	1	PLUG
11	129907-01331	1	CYLINDER HEAD GASKET
12	129900-01200	18	BOLT, HEAD
13	729907-01560	1	CYLINDER BLOCK ASSY, INC ITEMS 1-10

Power train

CYLINDER BLOCK ASSEMBLY—YANMAR TIER III DIESEL



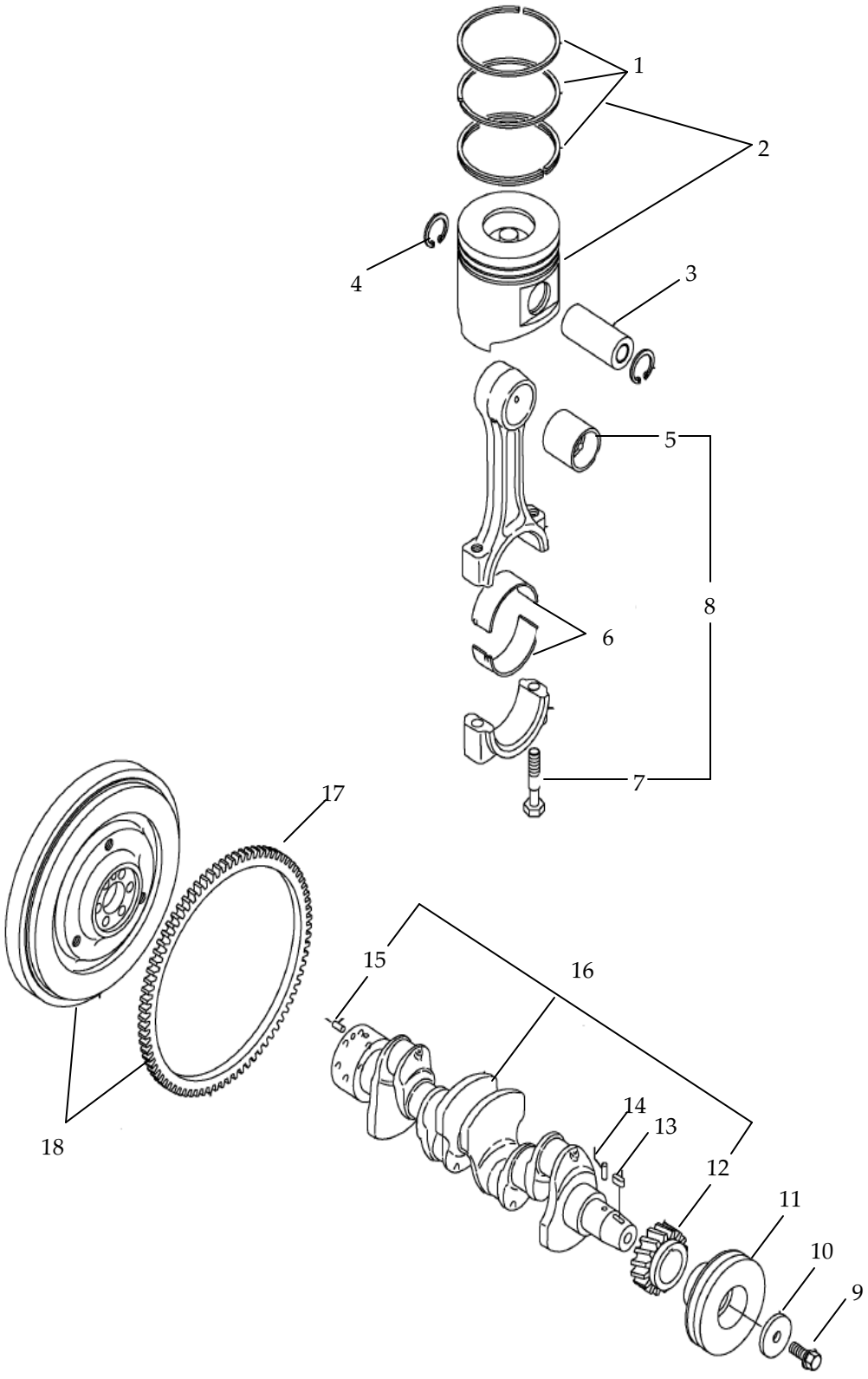
POWER TRAIN

CYLINDER BLOCK ASSEMBLY—YANMAR TIER III DIESEL

Item	Part Number	Qty	Description
1	22351-060012	2	SPRING PIN 6 X 12
2	129900-01250	1	PLUG 55
3	27241-300000	8	PLUG 30
4	23876-030000	3	PLUG PT 3/8 SCREW
5	129900-02931	2	BEARING ASSY, THRUST
5	129900-02941	2	BEARING ASSY, THRUST O/S=.025
6	729900-02801	5	MAIN BEARING SET
6	129900-02341	5	MAIN BEARING SET O/S=.025
7	129900-02020	10	BOLT, METAL CAP
8	129900-02410	1	BUSH, CAMSHAFT
9	129907-01331	1	CYLINDER HEAD GASKET
10	129900-01200	18	BOLT, HEAD
11	729927-01560	1	CYLINDER BLOCK ASSY, INC ITEMS 1-10

POWER TRAIN

CRANKSHAFT & PISTON—YANMAR TIER II DIESEL



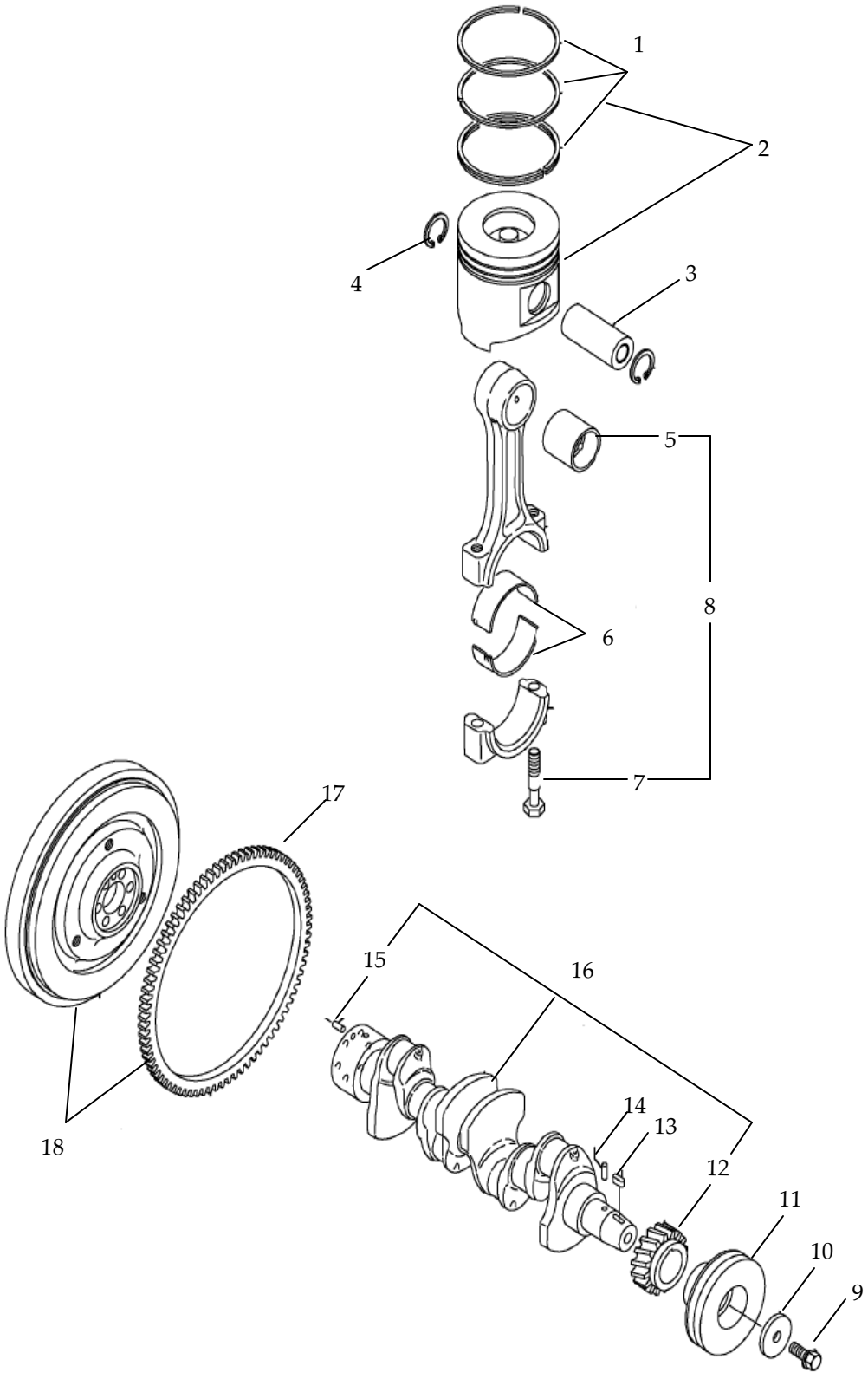
POWER TRAIN

CRANKSHAFT & PISTON—YANMAR TIER II DIESEL

Item	Part Number	Qty	Description
1	129907-22050	4	RING SET STANDARD
1	729907-22950	4	RING SET O/S=0.25
2	129907-22090	4	PISTON WITH RING STANDARD
2	129907-22910	4	PISTON WITH RING STANDARD O/S=0.25
3	120130-22301	4	PISTON PIN
4	22252-000300	8	CIRCLIP 30
5	129900-23910	4	BUSH, PISTON PIN
6	129900-23600	4	BEARING ASSY, CRANKCASE PIN STANDARD
6	129900-23610	4	BEARING PIN O/S=.025
7	129900-23200	8	BOLT, ROD
8	129900-23000	4	CONNECTING ROD ASSY
9	121850-21680	1	BOLT, V-PULLEY
10	129900-21640	1	WASHER
11	129907-21660	1	V-PULLEY, CRANKCASE
12	129900-21200	1	GEAR, CRANKSHAFT
13	22512-070140	1	KEY 7 X 14
14	121850-21290	1	PARALLEL PIN
15	121850-21920	1	PARALLEL PIN 10 X 22
16	129902-21000	1	CRANKSHAFT ASSY INCLUDES ITEMS 12-15
17	129900-21600	1	RING GEAR
18	129953-21570	1	FLYWHEEL WITH RING GEAR

POWER TRAIN

CRANKSHAFT & PISTON—YANMAR TIER III DIESEL



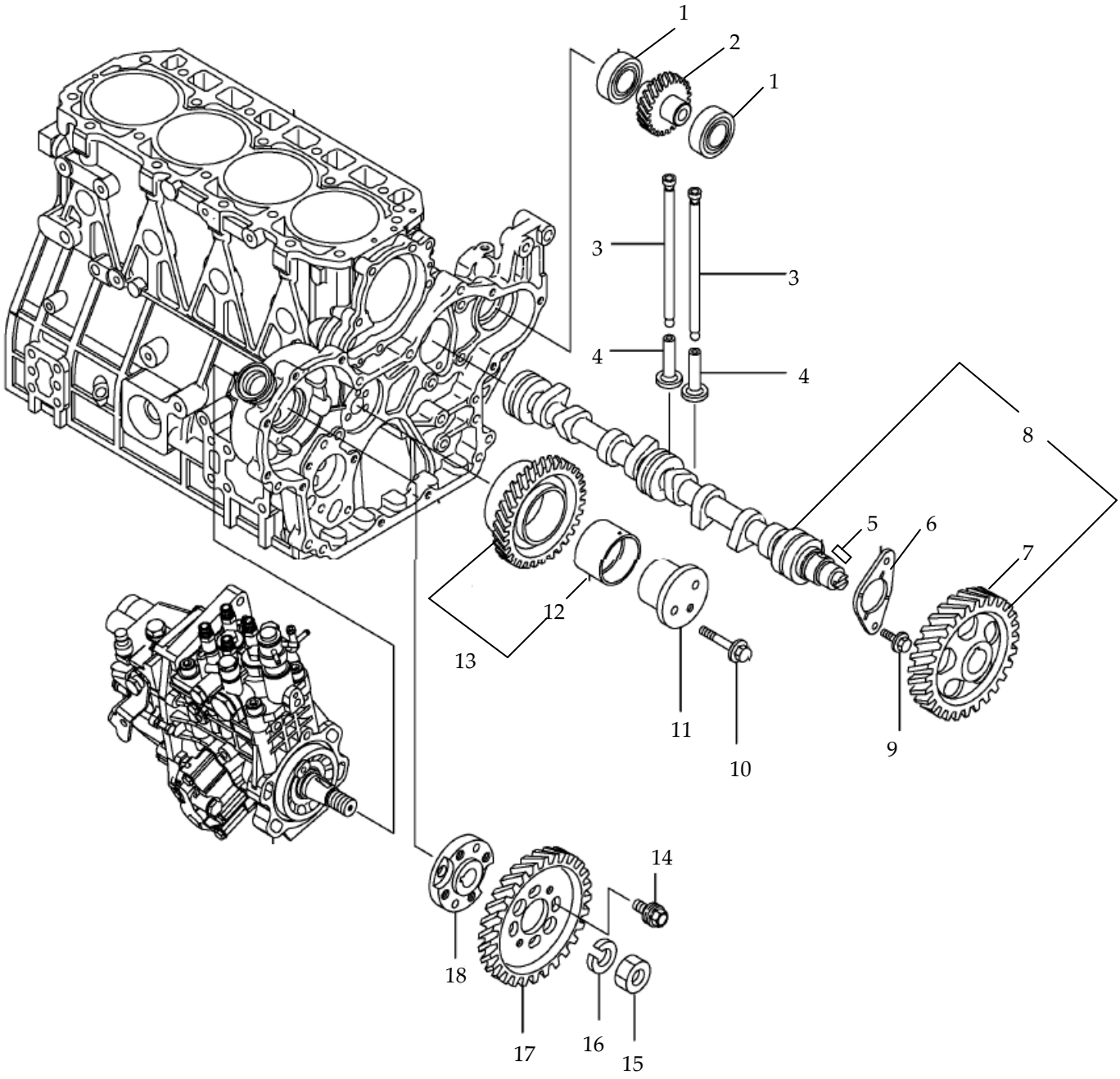
POWER TRAIN

CRANKSHAFT & PISTON—YANMAR TIER III DIESEL

Item	Part Number	Qty	Description
1	129927-22050	4	RING SET STANDARD
1	729927-22950	4	RING SET O/S=0.25
2	129907-22080	4	PISTON WITH RING STANDARD
2	129907-22900	4	PISTON WITH RING STANDARD O/S=0.25
3	120130-22301	4	PISTON PIN
4	22252-000300	8	CIRCLIP 30
5	129900-23911	4	BUSH, PISTON PIN
6	129900-23601	4	BEARING ASSY, CRANKCASE PIN STANDARD
6	129900-23611	4	BEARING PIN O/S=.025
7	129900-23200	8	BOLT, ROD
8	129900-23001	4	CONNECTING ROD ASSY
9	129916-21610	1	BOLT, V-PULLEY
10	129900-21640	1	WASHER
11	129907-21660	1	V-PULLEY, CRANKCASE
12	129900-21220	1	GEAR, CRANKSHAFT
13	22512-070140	1	KEY 7 X 14
14	121850-21290	1	PARALLEL PIN
15	121850-21920	1	PARALLEL PIN 10 X 22
16	129902-21050	1	CRANKSHAFT ASSY INCLUDED ITEMS 12-15
17	129900-21600	1	RING GEAR
18	129953-21570	1	FLYWHEEL WITH RING GEAR

Power train

CAMSHAFT & DRIVING GEAR—YANMAR TIER II DIESEL



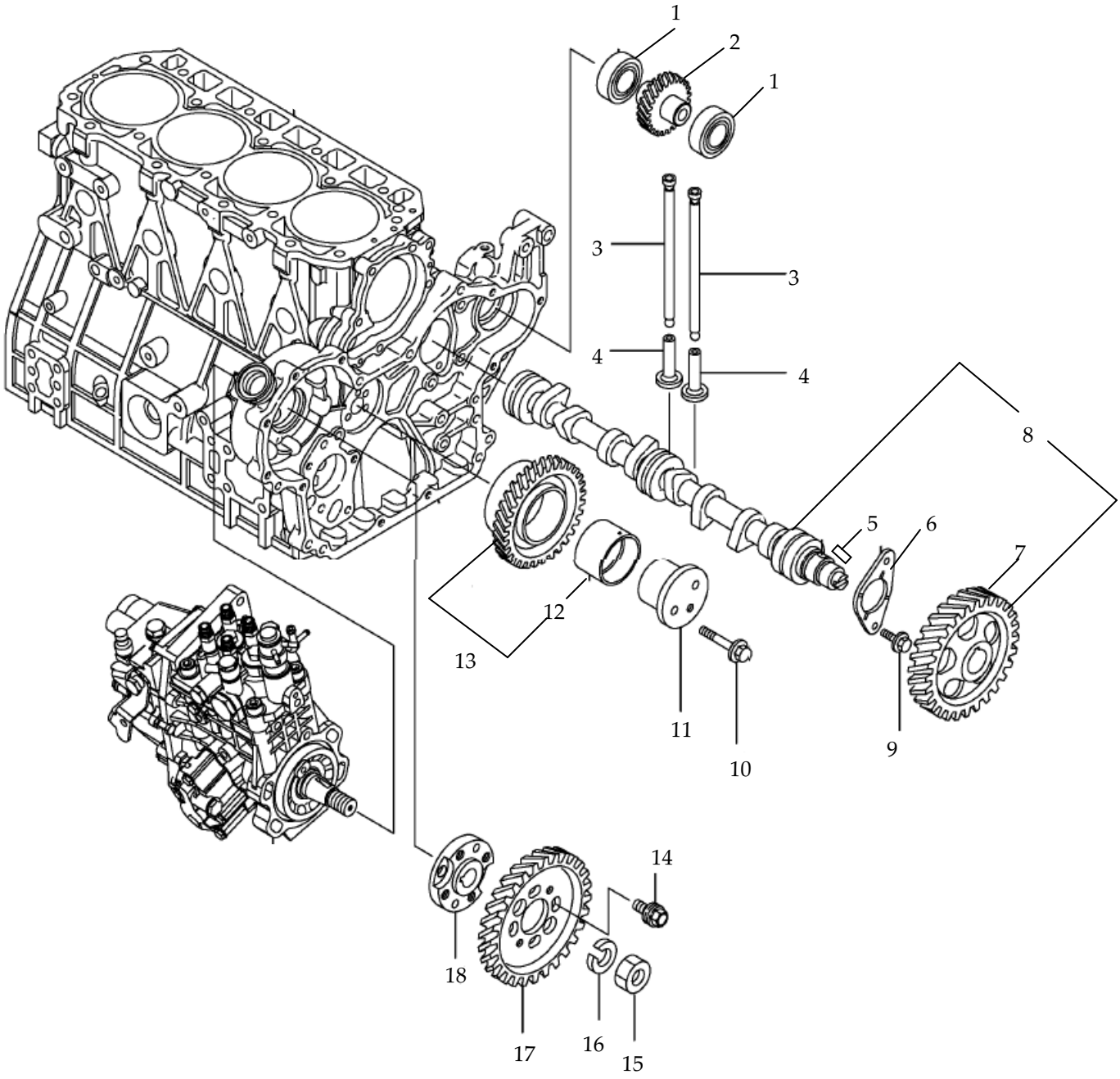
POWER TRAIN

CAMSHAFT & DRIVING GEAR—YANMAR TIER II DIESEL

Item	Part Number	Qty	Description
1	129900-26250	2	BALL BEARING
2	129980-26200	1	GEAR, HO PUMP
3	129907-14400	8	PUSH ROD
4	129150-14200	8	TAPPET
5	22512-070140	1	KEY 7 X 14
6	129150-02450	1	THRUST BEARING(CAM)
7	129900-14100	1	GEAR, CAMSHAFT
8	129907-14581	1	CAMSHAFT ASSEMBLY INCLUDES ITEMS 5-7
9	26106-080162	2	BOLT, M8 X 16 PLATED
10	26106-080552	3	BOLT, M8 X 55 PLATED
11	123900-25060	1	SHAFT(GEAR IDLE)
12	129150-25920	1	BUSH, IDLE GEAR
13	129900-25100	1	GEAR ASSEMBLY INCLUDES ITEM 12
14	129953-25300	4	BOLT
15	26776-180002	1	NUT, M18 LOCK
16	22217-180000	1	SPRING WASHER 18
17	123907-25909	1	GEAR, FUEL INJECTION PUMP
18	158563-51150	1	FLANGE

Power train

CAMSHAFT & DRIVING GEAR—YANMAR TIER III DIESEL



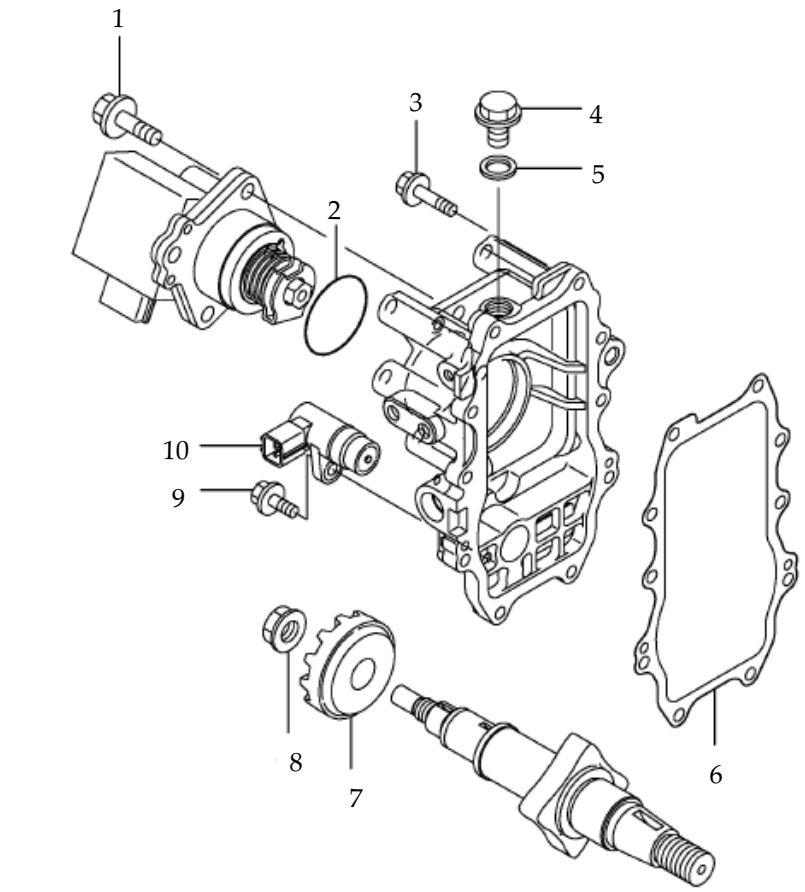
POWER TRAIN

CAMSHAFT & DRIVING GEAR—YANMAR TIER III DIESEL

Item	Part Number	Qty	Description
1	129900-26250	2	BALL BEARING
2	129980-26200	1	GEAR, HO PUMP
3	129907-14400	8	PUSH ROD
4	129150-14200	8	TAPPET
5	22512-070140	1	KEY 7 X 14
6	129150-02450	1	THRUST BEARING(CAM)
7	129900-14100	1	GEAR, CAMSHAFT
8	129907-14581	1	CAMSHAFT ASSEMBLY INCLUDES ITEMS 5-7
9	26106-080162	2	BOLT, M8 X 16 PLATED
10	26106-080552	3	BOLT, M8 X 55 PLATED
11	123900-25060	1	SHAFT(GEAR IDLE)
12	129150-25920	1	BUSH, IDLE GEAR
13	129900-25100	1	GEAR ASSEMBLY INCLUDES ITEM 12
14	129953-25300	4	BOLT
15	26776-180002	1	NUT, M18 LOCK
16	22217-180000	1	SPRING WASHER 18
17	123907-25909	1	GEAR, FUEL INJECTION PUMP
18	158563-51150	1	FLANGE

POWER TRAIN

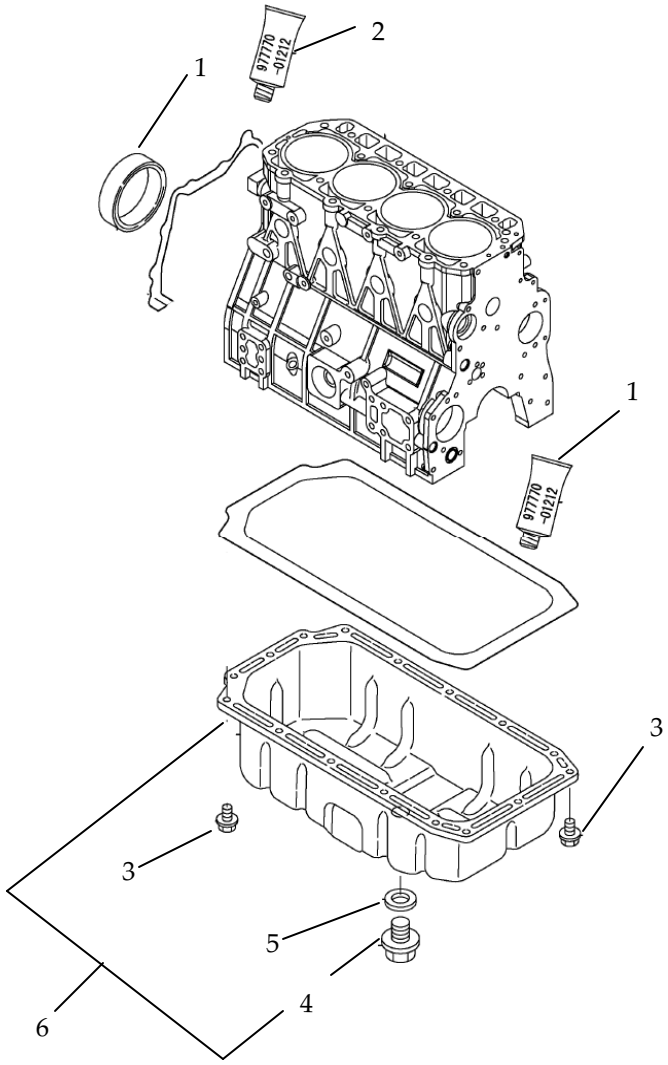
GOVERNOR ASSEMBLY—YANMAR TIER III DIESEL (ONLY)



Item	Part Number	Qty	Description
1	26106-080252	3	BOLT, M8 X 25 PLATED
2	24341-000480	1	O-RING 1A S-48.0
3	26106-060252	10	BOLT, M6 X 25 PLATED
4	23887-120002	1	PLUG, M12 HEX
5	22190-120000	1	SEAL WASHER 12(BOLT)
6	158560-61050	1	GASKET
7	158553-61780	1	GEAR, SENSOR
8	129008-61301	1	NUT, GOVERNOR WEIGHT
9	26106-060162	1	BOLT, M6 X 16 PLATED
10	158557-61720	1	SENSOR

POWER TRAIN

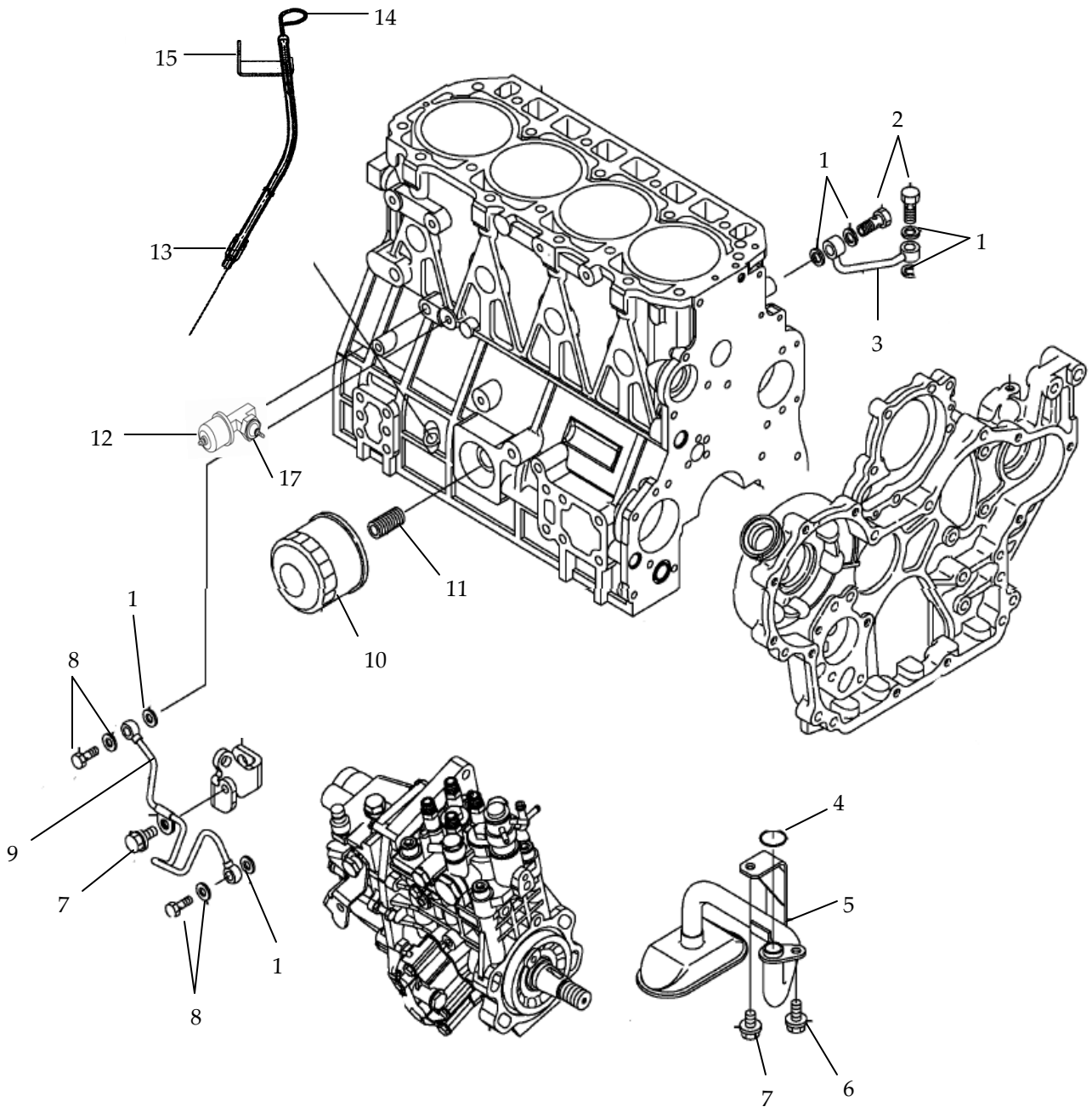
OIL PAN ASSEMBLY



Item	Part Number	Qty	Description
1	122916-01790	1	SEAL
2	977770-01212	1	GASKET, LIQUID
3	26106-080122	16	BOLT M8 X 12 PLATED
4	119640-01640	1	DRAIN PLUG
5	22190-220002	1	SEAL WASHER 22S
6	129916-01710	1	OIL PAN ASSEMBLY INCLUDES ITEMS 4 & 5

Power train

LUBE — OIL SYSTEM



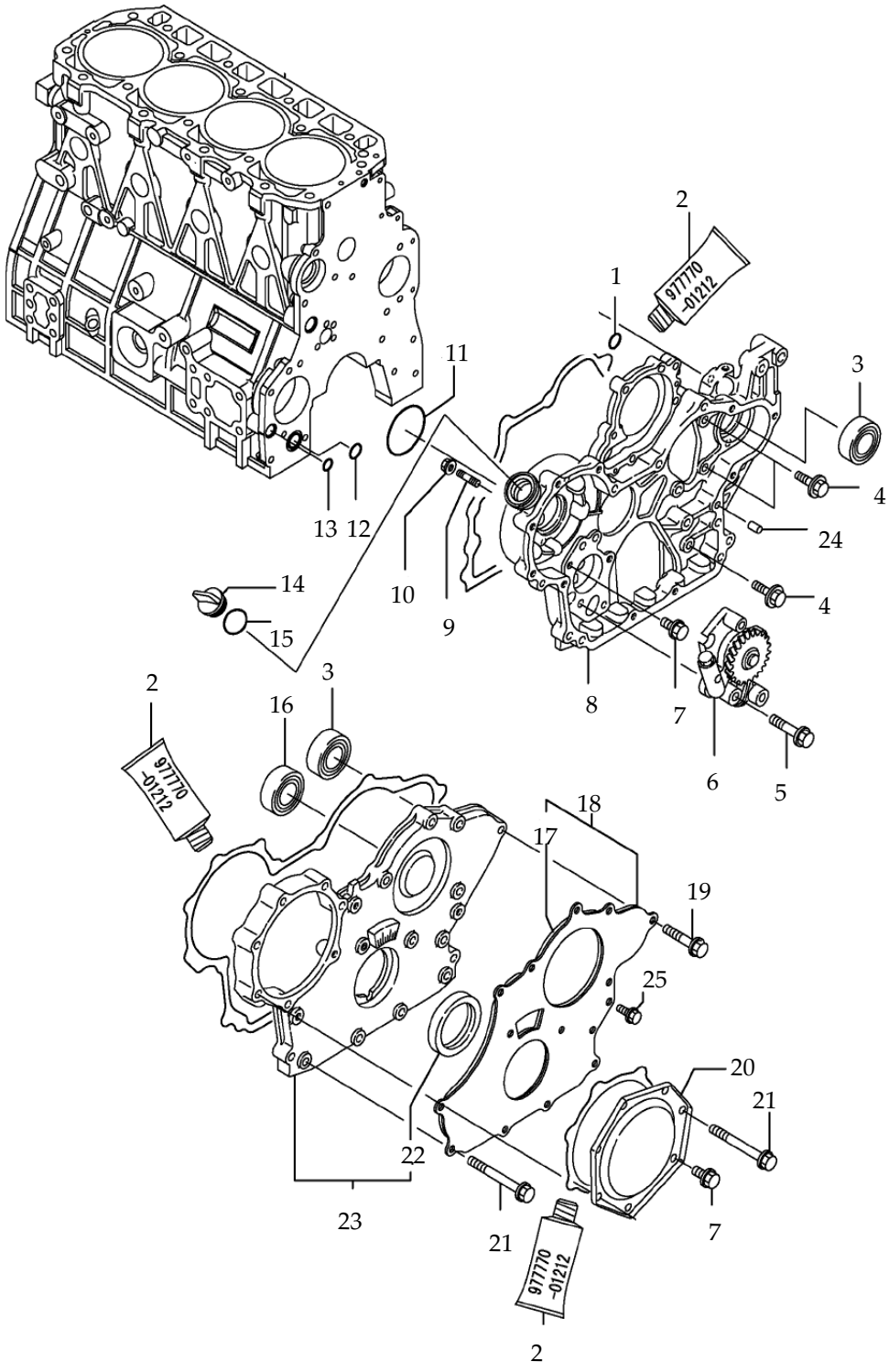
POWER TRAIN

LUBE — OIL SYSTEM

Item	Part Number	Qty	Description
1	22190-080002	6	SEAL WASHER 8S
2	105010-39140	2	BOLT, PIPE JOINT
3	129930-39050	1	PIPE
4	129900-32030	1	O-RING P20
5	129953-35000	1	PIPE ASSEMBLY OIL INLET
6	26106-080162	1	BOLT, M8 X 16 PLATED
7	26106-080122	2	BOLT M8 X 12 PLATED
8	129005-59830	2	BOLT ASSEMBLY, JOINT
9	129907-39061	1	PIPE ASSEMBLY LUBE OIL
10	129150-35153	1	OIL FILTER ELEMENT
11	119000-35140	1	STUD LUBE OIL FILTER
12	A-TT4-00651-1	1	OIL PRESSURE SENDING UNIT
13	119260-34810	1	GUIDE, DIPSTICK
14	129907-34811	1	DIPSTICK
15	129928-34850	1	TUBE, DIPSTICK
16	24311-240100	1	O-RING, DIPSTICK(NOT SHOWN)
17	119761-39450	1	OIL PRESSURE SWITCH, TIER 3/4i

POWER TRAIN

GEAR HOUSING



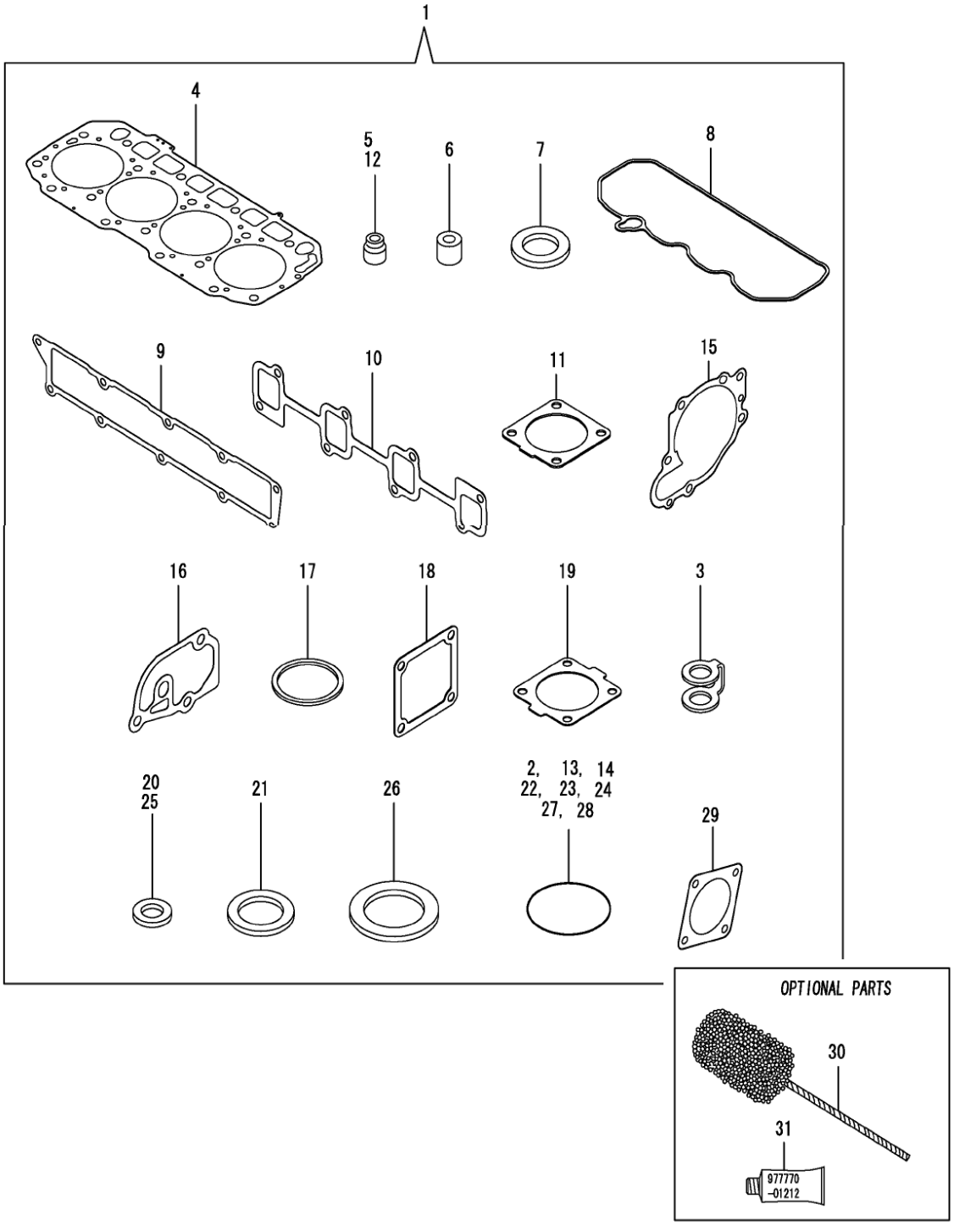
POWER TRAIN

GEAR HOUSING

Item	Part Number	Qty	Description
1	24311-000070	1	O-RING 1A P7.0
2	977770-01212	3	GASKET, LIQUID
3	129900-26250	2	BALL BEARING
4	26106-080202	3	BOLT, M8 X 20 PLATED
5	26106-080452	3	BOLT, M8 X 45 PLATED
6	129900-32001	1	OIL PUMP ASSEMBLY TIER II ONLY
6	129900-32060	1	OIL PUMP ASSEMBLY TIER III ONLY
7	26106-080162	3	BOLT, M8 X 16 PLATED
8	129962-01500	1	CASE, GEAR
9	26216-100302	4	STUD, BOLT
10	26306-100002	4	NUT
11	24351-030750	1	PACKING, 3075
12	129900-32030	1	O-RING P20
13	129900-32040	1	O-RING P14
14	124160-01751	1	OIL FILLER CAP
15	24311-000320	1	O-RING 1A P32.0
16	129900-14140	1	BEARING #6205
17	129900-01870	1	SPONGE
18	129900-01850	1	COVER ASSEMBLY INCLUDES ITEM 20
19	26106-080402	10	BOLT M8 X 40 PLATED
20	129900-01740	1	COVER, FI PUMP
21	129001-91810	7	BOLT, M8 X 70 PLATED
22	129900-01780	1	SEAL, OIL
23	729907-01550	1	HOUSING ASSY COVER INCLUDES ITEM 25
24	129100-01580	4	PARALLEL PIN 8 X 16
25	26106-080162	3	BOLT, M8 X 16 PLATED

Power train

ENGINE GASKETS—YANMAR TIER II



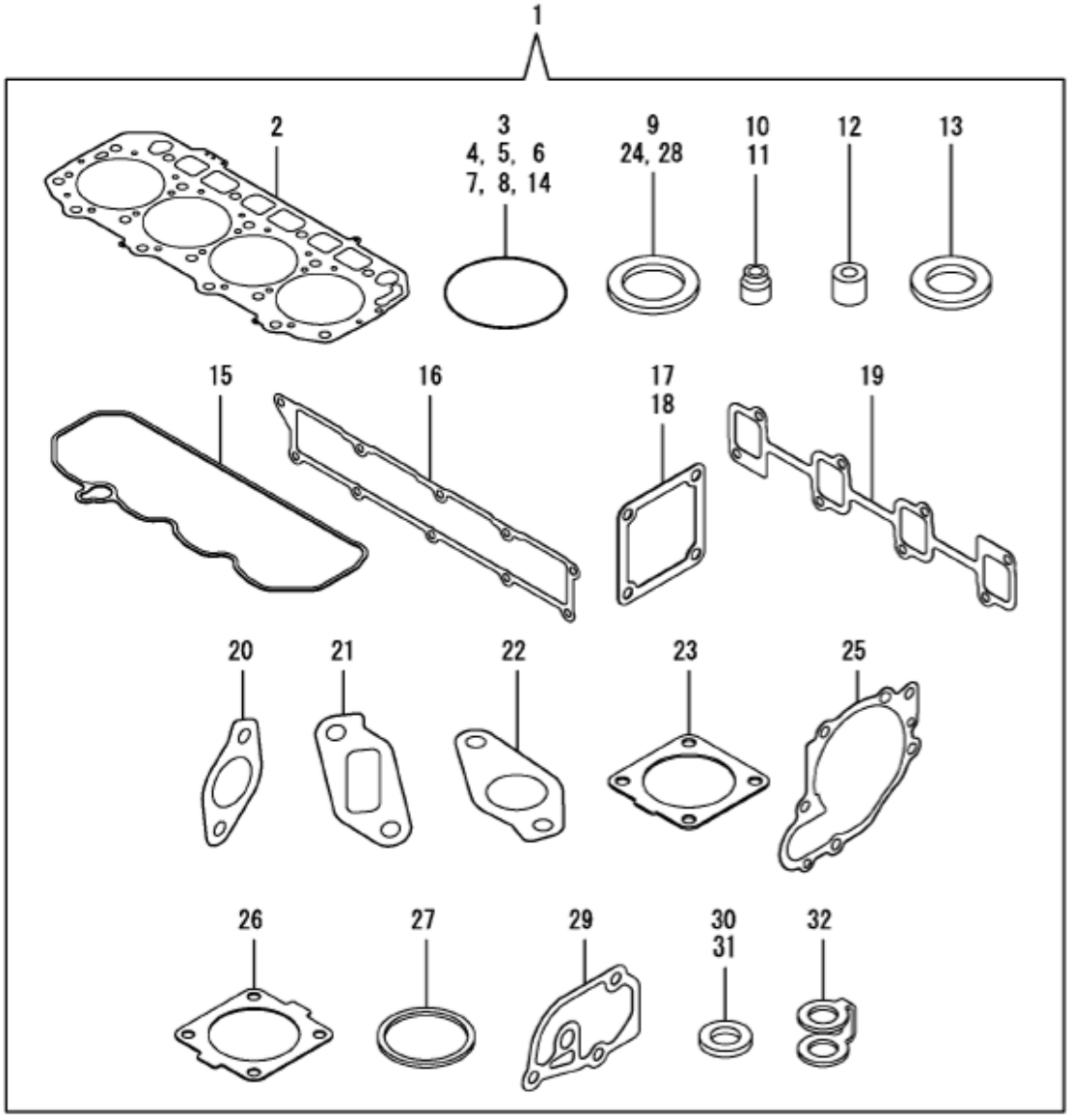
POWER TRAIN

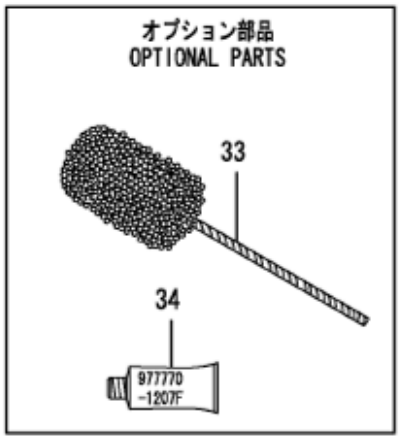
ENGINE GASKETS—YANMAR TIER II

Item	Part Number	Qty	Description
1	729907-92760	1	GASKET SET
2	24341-000240	1	O-RING 1A S-24.0
3	123907-59550	5	PACKING, FUEL RETURN
4	129907-01331	1	CLYLINDER HEAD GASKET
5	124160-11340	8	SEAL, VALVE STEM
6	119802-11870	4	PROTECTOR NOZZLE
7	119625-11880	4	SEAT, NOZZLE
8	129907-11310	1	HEAD COVER GASKET
9	129907-12110	1	INTAKE MANIFOLD GASKET
10	129900-13251	1	EXHAUST MANIFOLD GASKET
11	129930-13200	1	GASKET, SILENCER
12	124950-11340	8	SEAL, VALVE STEM
13	129900-32030	2	O-RING P20
14	129900-32040	1	O-RING P14
15	129900-42020	1	WATER PUMP GASKET
16	129900-49870	1	CASE GASKET
17	121850-49550	1	THERMOSTAT GASKET
18	121850-77021	1	GASKET
19	121850-49540	1	THERMOSTAT HOUSING GASKET
20	23414-080000	3	GASKET 8, ROUND
21	124465-44950	2	GASKET 16
22	24311-000070	1	O-RING 1A P7.0
23	14311-000120	8	O-RING 1A P12.0
24	24311-000320	2	O-RING 1A P32.0
25	22190-080002	7	SEAL WASHER 8S
26	22190-220002	1	SEAL WASHER 22S
27	24351-030750	1	PACKING 3075
28	24321-000850	1	O-RING 1A G85.0
29	124240-01883	1	GASKET
30	129400-92450	1	FLEX HONE
31	977770-01212	1	GASKET, LIQUID

POWER TRAIN

ENGINE GASKETS—YANMAR TIER III DIESEL





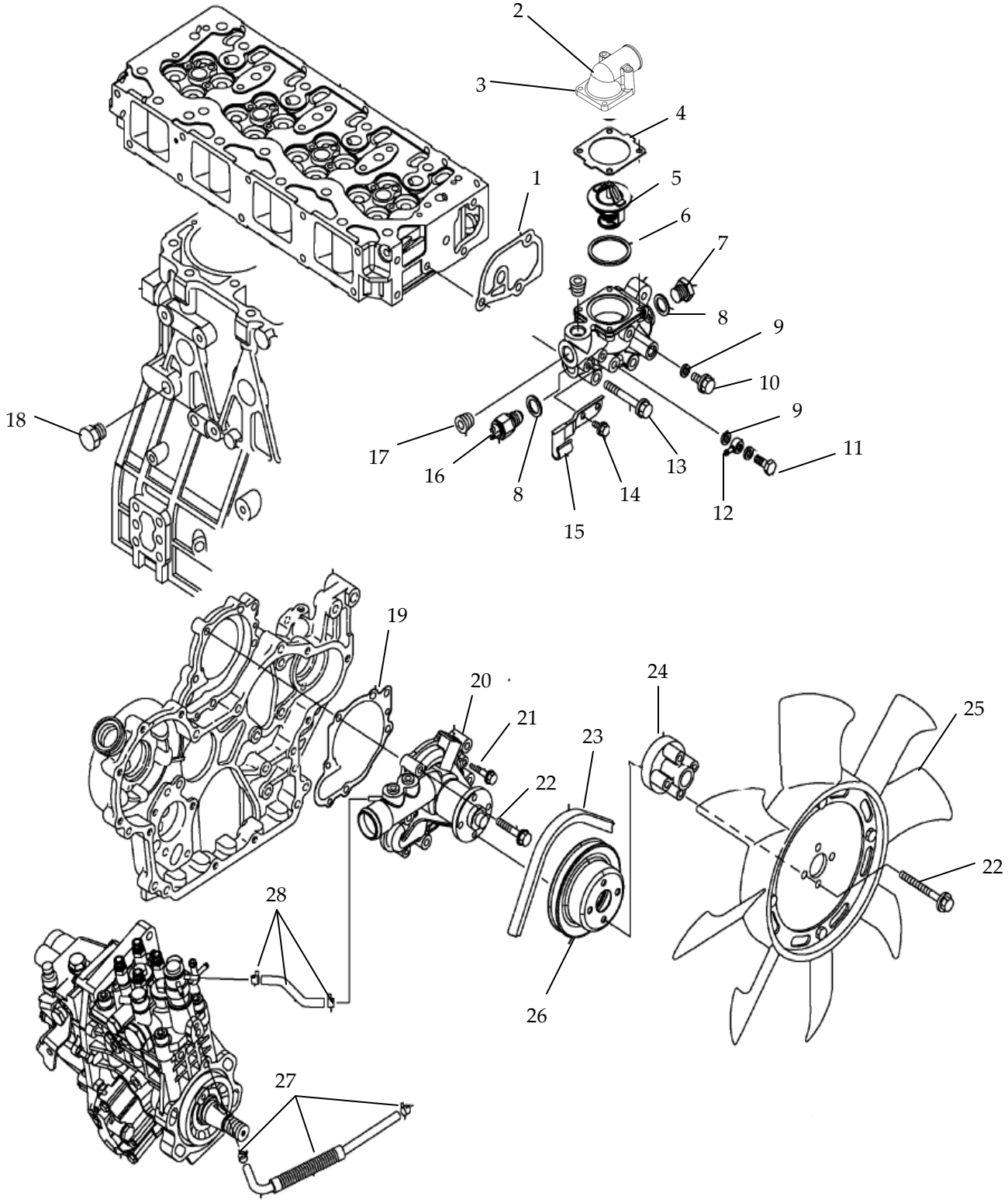
POWER TRAIN

ENGINE GASKETS—YANMAR TIER III DIESEL

Item	Part Number	Qty	Description
1	729927-92760	1	GASKET SET
2	129907-01331	1	CLYLINDER HEAD GASKET
3	129900-32030	2	O-RING P20
4	129900-32040	1	O-RING P14
5	24311-000070	1	O-RING 1A P7.0
6	24351-030750	1	PACKING 3075
7	24311-000320	2	O-RING 1A P32.0
8	24321-000850	1	O-RING 1A G85.0
9	22190-220002	1	SEAL WASHER 22S
10	119803-11340	8	SEAL, VALVE STEM
11	124160-11340	8	SEAL, VALVE STEM
12	119802-11870	4	PROTECOR NOZZLE
13	119625-11880	4	SEAT, NOZZLE
14	24311-000120	8	O-RING 1A P12.0
15	129933-11310	1	GASKET, HEAD COVER
16	129907-12110	1	GASKET, INTAKE MANIFOLD
17	119129-77020	1	GASKET
18	121850-77021	1	GASKET
19	129900-13251	1	GASKET, EXHAUST MANIFLOLD
20	129927-13810	1	GASKET, EGR PIPE
21	129927-13910	1	GASKET, EGR-V IN
22	129927-13920	1	GASKET, EGR-V OUT
23	129930-13201	1	GASKET, SILENCER
24	22190-080002	9	SEAL WASHER 8S
25	129900-42020	1	GASKET, CW-P
26	121850-49540	1	GASKET, THERMOSTAT
27	121850-49550	1	GASKET, THERMOSTAT
28	22190-120002	1	SEAL WASHER 12
29	129900-49870	1	GASKET, CASE
30	23414-080000	1	GASKET 8 ROUND
31	124465-44950	2	GASKET 16
32	123907-59550	5	PACKING, FUEL RETURN
33	129400-92450	1	FLEX HONE
34	977770-1207F	1	GASKET, LIQUID

COOLING SYSTEM

ENGINE COOLING SYSTEM



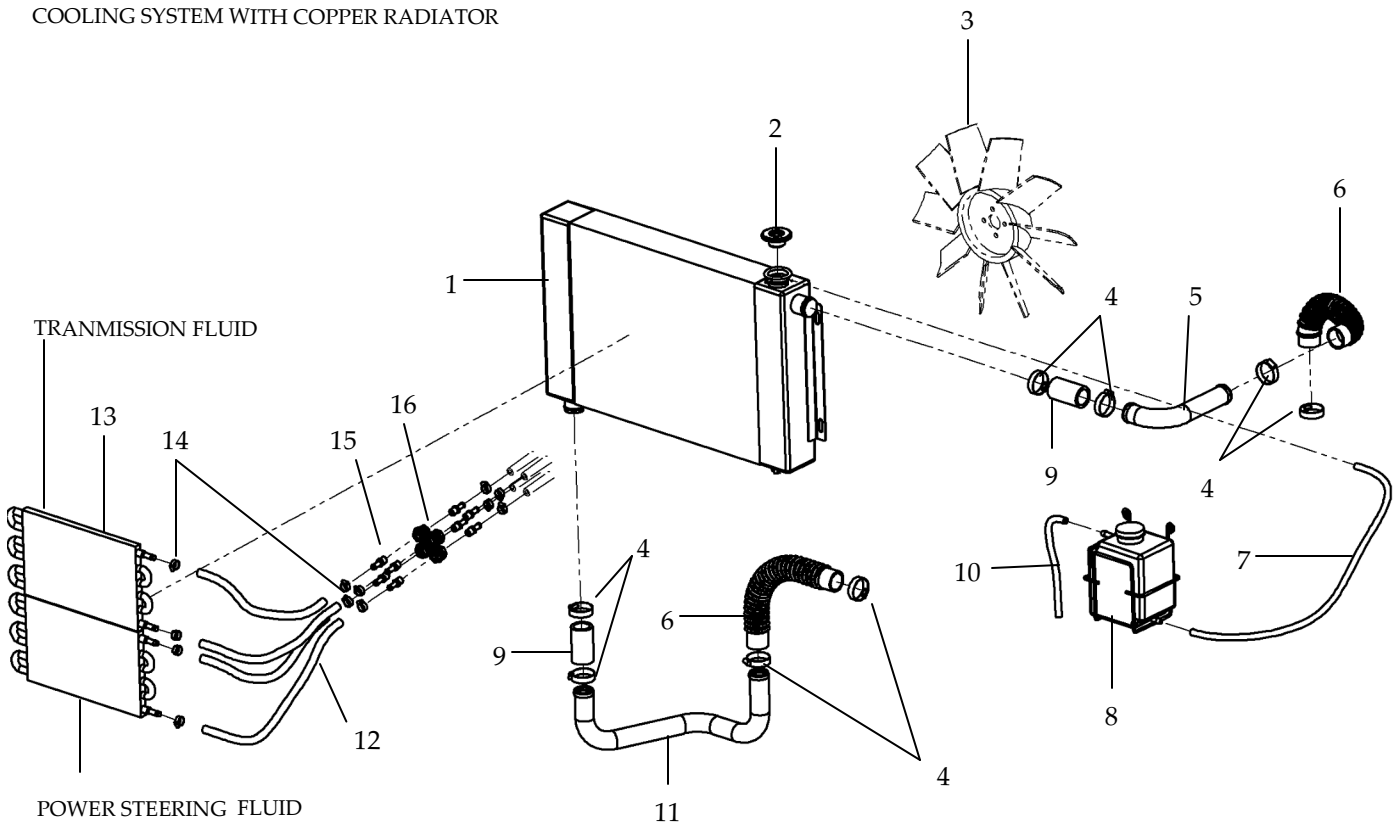
COOLING SYSTEM

ENGINE COOLING SYSTEM

Item	Part Number	Qty	Description
1	129900-49870	1	GASKET, CASE
2	129980-49530	1	THERMOSTAT HOUSING
3	26106-060202	4	BOLT, M6 X 20 PLATED
4	121850-49540	1	GASKET, THERMOSTAT HOUSING
5	121850-49811	1	THERMOSTAT
6	121850-49550	1	THERMOSTAT GASKET
7	121450-42450	1	PLUG M16
8	124465-44950	2	GASKET
9	23414-080000	3	GASKET
10	26106-080122	1	BOLT, M8 X 12 PLATED
11	105582-59150	1	BOLT, PIPE JOINT
12	23387-040800	1	JOINT
13	26106-080602	3	BOLT, M8 X 60 PLATED
14	26106-060122	2	BOLT, M6 X 12 PLATED
15	122907-49730	1	BRACKET
16	129927-44900	1	TEMPERATURE SENDING UNIT TIER III ONLY
17	323-094	1	TEMPERATURE SENDING UNIT TIER II ONLY
18	171056-49120	1	DRAIN PLUG
19	129900-42020	1	GASKET, WATER PUMP
20	129907-42000	1	WATER PUMP
21	26106-060302	2	HCS, M6X1.00 X 30, FLANGE HEAD
22	NPN	9	HCS, M8X1.25 X 45
23	25132-004200	1	V-BELT
24	A-TT8-00360	1	FAN SPACER
25	A-TT8-00312	1	FAN
26	129900-42450	1	PULLEY, WATER PUMP
27	129907-49710	1	PIPE A, COOLING WITH CLAMPS
28	129907-49620	1	HOSE B ASSEMBLY, WATER
29	A-TT8-00359	1	REMOTE FAN BELT (NOT SHOWN)

COOLING SYSTEM

RADIATOR (COPPER)



COOLING SYSTEM

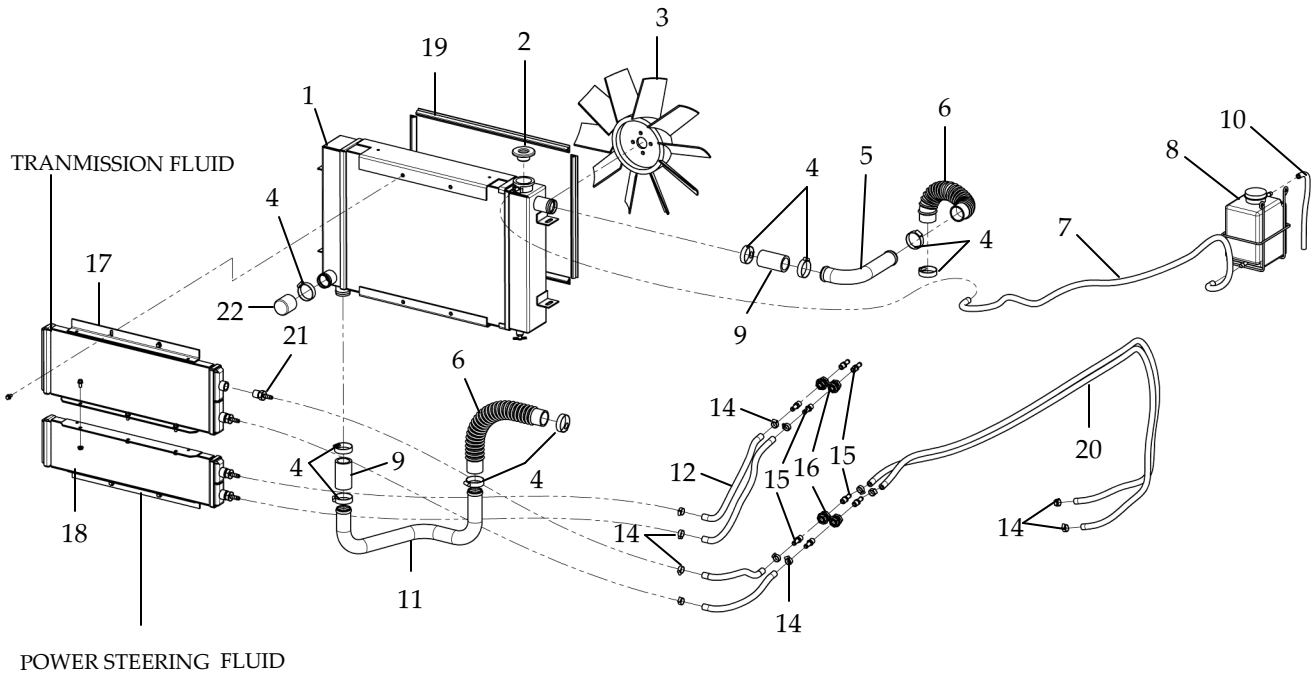
RADIATOR (COPPER)

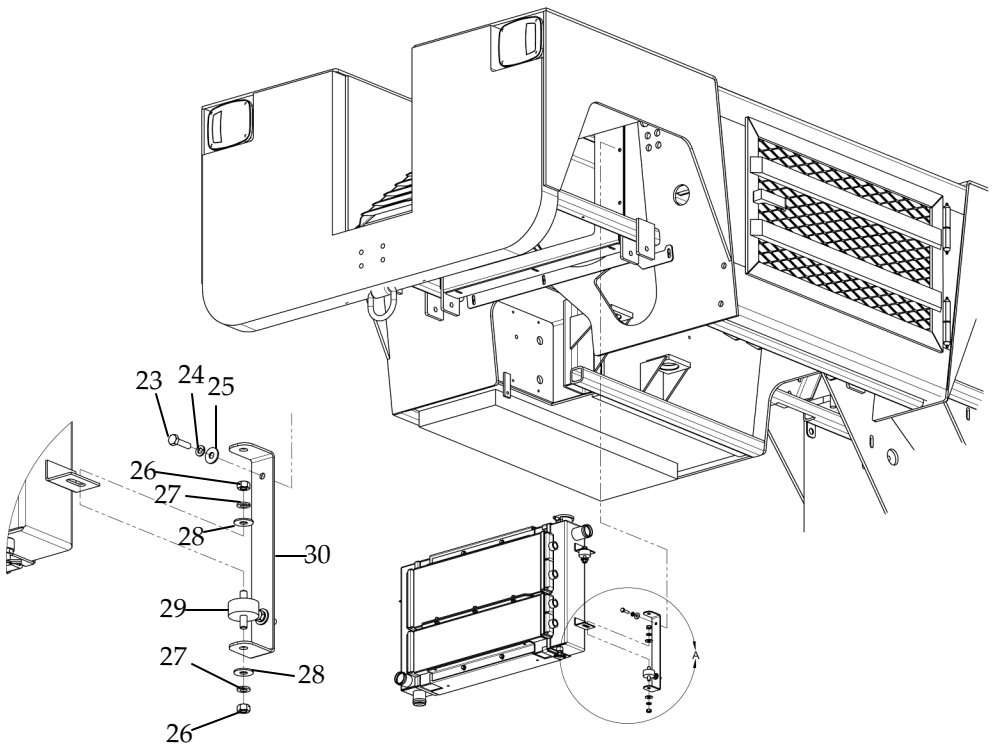
Item	Part Number	Qty	Description
1	B-TT4-00313 (COPPER)	1	COPPER RADIATOR
2	A-USAT5-00330	1	RADIATOR CAP
3	A-TT8-00312	1	FAN
4	NPN	10	# 24 HOSE CLAMP
5	A-TT8-00322	1	COOLANT ELBOW
6	A-TT10-00323-1	2	RADIATOR HOSE
7	H05705	1	5/16 HOSE SAE30R7 WK PR 75 "
8	A-TT10TD-00322	1	SURGE TANK
9	A-TT4-00331	2 OR 3	COOLING HOSE 1.5 ID X 4 IN
10	NPN	1	CLEAR NYLON HOSE 36"
11	A-TT8-00320	1	COOLANT OUTLET PIPE
12	H05705	4	5/16 HOSE SAE30R7 WK PR 20 "
13	A-TT4-00221-1	2	COOLER COPPER RADIATOR
14	NPN	12	#4 HOSE CLAMP
15	05706B-104	8	FITTING, STRAIGHT 3/8 X 1/4
16	A-TT4-00280	4	BULK HEAD FITTING
17	B-TT4-00221-1	1	POWER STEERING COOLER-ALUMINUM
18	B-TT4-00221-2	1	TRANSMISSION COOLER-ALUMINUM
19	A-TT8-00314	1	FAN SHROUD SEAL
20	H05705	2	5/16 HOSE SAE30R7 WK PR 80 "

COOLING SYSTEM

RADIATOR (ALUMINUM)

COOLING SYSTEM WITH ALUMINUM RADIATOR





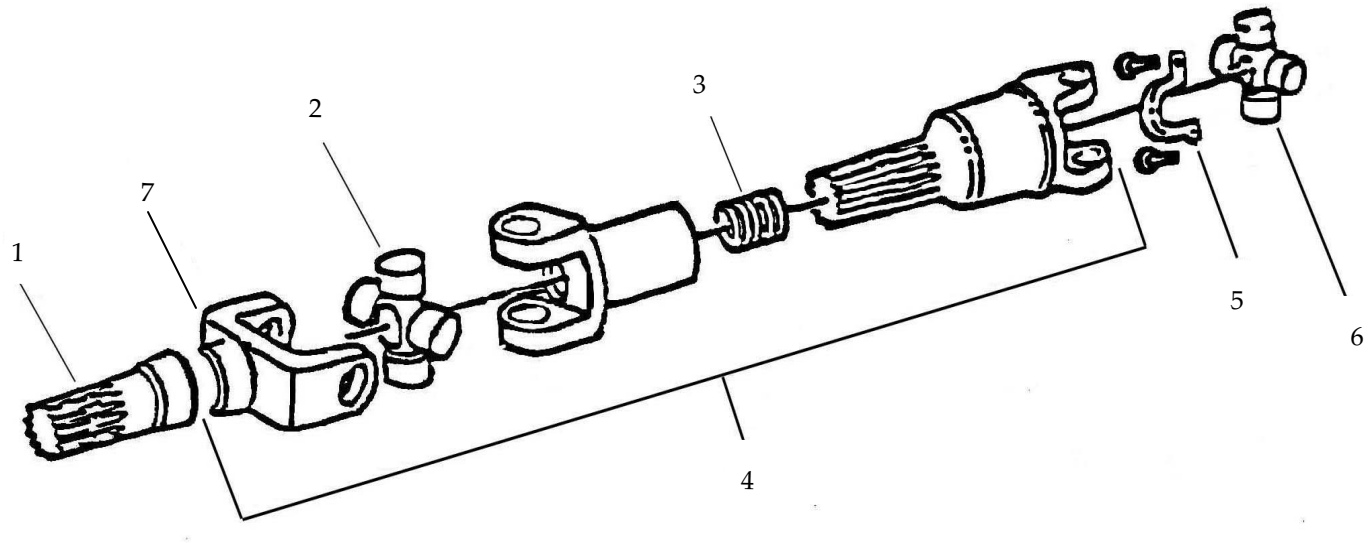
COOLING SYSTEM

RADIATOR (ALUMINUM)

Item	Part Number	Qty	Description
1	TT08-08-002-SA (ALUMINUM)	1	ALUMINUM RADIATOR
2	A-USAT5-00330	1	RADIATOR CAP
3	A-TT8-00312	1	FAN
4	NPN	10	# 24 HOSE CLAMP
5	A-TT8-00322	1	COOLANT ELBOW
6	A-TT10-00323-1	2	RADIATOR HOSE
7	H10106	1	3/8 HOSE 17"
8	A-TT10TD-00322	1	SURGE TANK
9	A-TT4-00331	2 OR 3	COOLING HOSE 1.5 ID X 4.5 IN
10	NPN	1	CLEAR NYLON HOSE 36"
11	A-TT8-00320	1	COOLANT OUTLET PIPE
12	H05705	4	5/16 HOSE SAE30R7 WK PR 20"
13	A-TT4-00221-1	2	COOLER COPPER RADIATOR
14	NPN	12	#4 HOSE CLAMP
15	05706B-104	4	FITTING, STRAIGHT 3/8 X 1/4
16	A-TT4-00280	4	BULK HEAD FITTING
17	B-TT4-00221-1	1	POWER STEERING COOLER-ALUMINUM
18	B-TT4-00221-2	1	TRANSMISSION COOLER-ALUMINUM
19	A-TT10-00314	1	FAN SHROUD SEAL
20	H10106	2	3/8 HOSE SAE30R7 WK PR 86"
21	4312-06-08	4	FITTING, .5 PIPE TO .375 BARB ADAPTOR
22	B-TT4-00315	1	RADIATOR END CAP
23	NPN	4	1/4-20 X 1 HCS
24	NPN	4	1/4 LOCK WASHER
25	NPN	4	1/4 FLAT WASHER
26	NPN	8	5/16-18 HEX NUT
27	NPN	8	5/16 LOCK WASHER
28	NPN	8	5/16 FLAT WASHER
29	A-TT8-00364	4	VIBRATION MOUNTING ISOLATOR

DRIVELINE

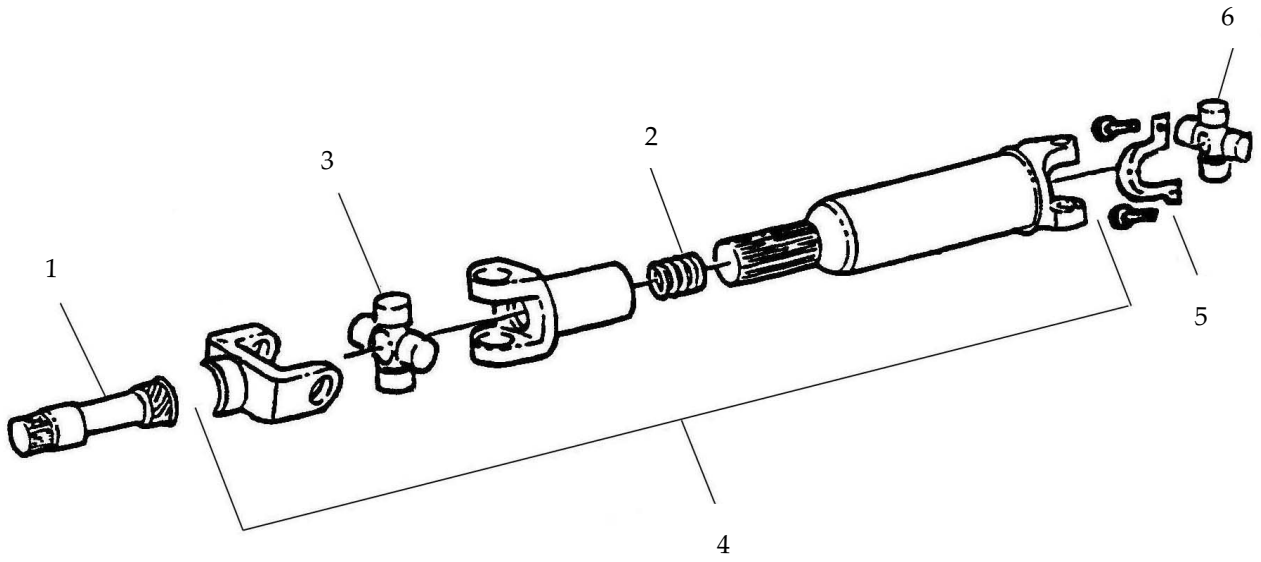
DRIVE SHAFT ASSEMBLY-FRONT (ALL TT 4-8 MODELS)



Item	Part Number	Qty.	Description
1	A-TT8-00201-1	1	TRANSMISSION OUTPUT YOKE SHAFT-FRONT
2	A-TT4-00132-1	1	CROSS BEARING FRONT D/S NEW STYLE
3	A-TT4-00134	1	DRIVE SHAFT SPRING
4	A-TT8-00202-4	1	DRIVE SHAFT
5	A-TT4-00130	2	END YOKE STRAP AND BOLT KIT
6	A-TT4-00137-1	1	CROSS BEARING FRONT D/S NEW STYLE
7	2-4-1921	1	END YOKE

DRIVELINE

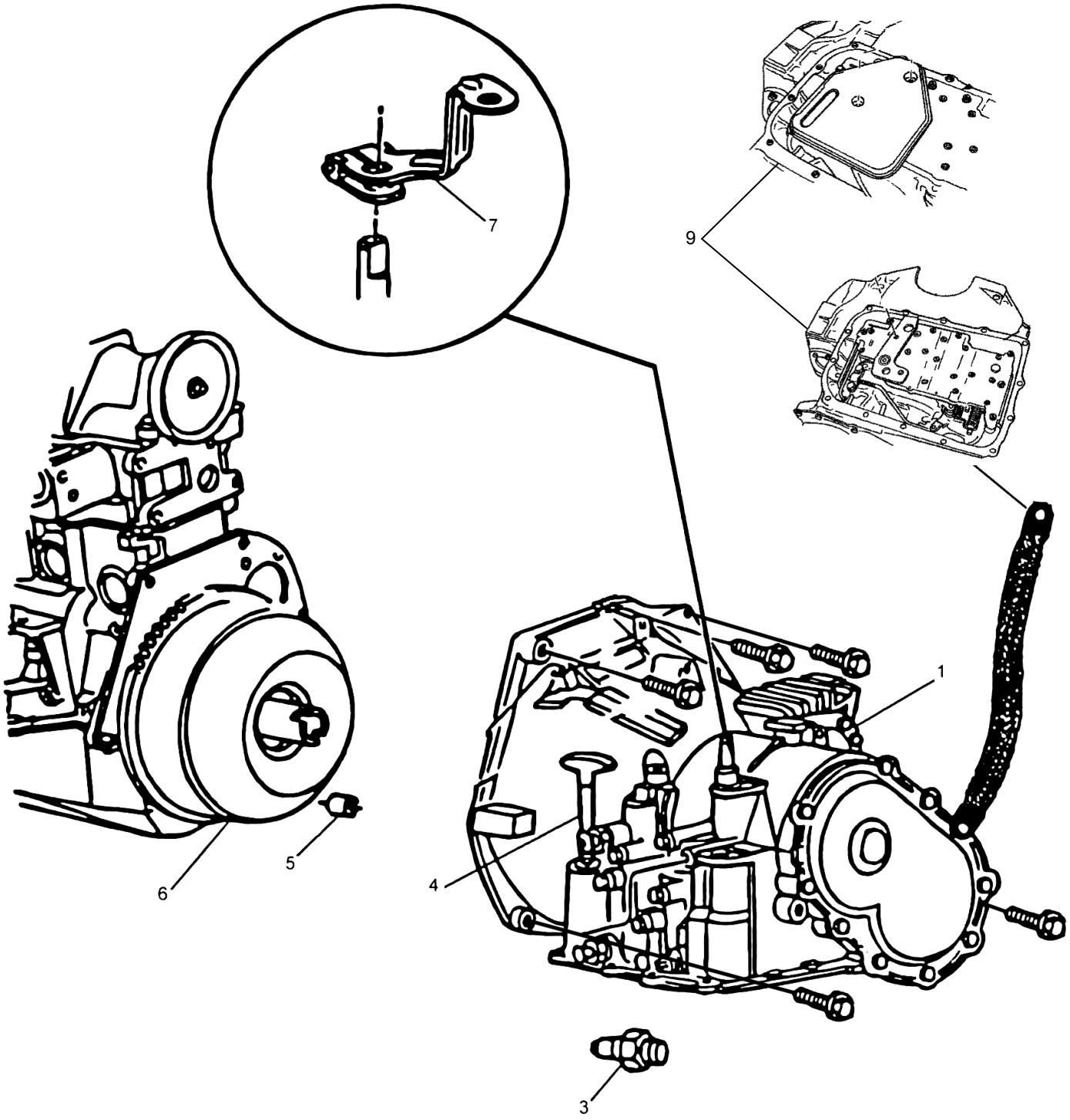
DRIVESHAFT ASSEMBLY—REAR (ALL TT 4-8 MODELS)



Item	Part Number	Qty.	Description
1	A-TT8-00201-2	1	TRANSMISSION OUTPUT YOKE SHAFT-REAR
2	A-TT4-00134	1	DRIVE SHAFT SPRING
3	A-TT4-00132-1	1	CROSS BEARING FRONT D/S NEW STYLE
4	AB-TT4-00130-1	1	DRIVE SHAFT
5	A-TT4-00130	2	END YOKE STRAP KIT
6	A-TT4-00137	1	CROSS BEARING REAR D/S NEW STYLE

TRANSMISSION

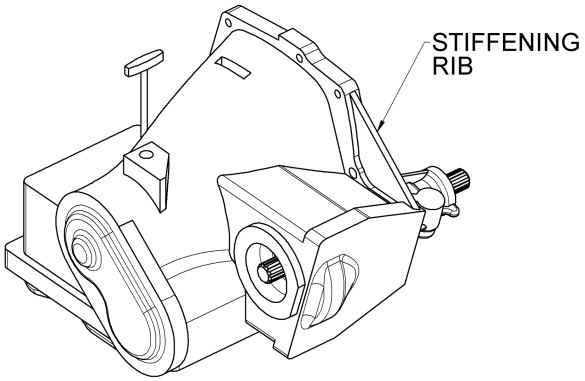
TRANSAXLE MOUNTING & MISC. PARTS (ALL TT 4-8 MODELS)



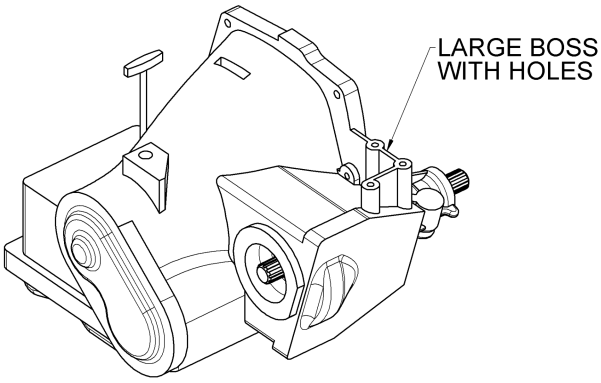
TRANSMISSION

TRANSAXLE MOUNTING & MISC. PARTS (ALL TT 4-8 MODELS)

Transmission identification guideline:



"OLD" 2.2/2.5L BELL HOUSING



"NEW" 2.0/2.4L BELL HOUSING

Item	Part Number	Qty.	Description
1	SEE TABLE BELOW	1	A413 TRANSMISSION
2	A-TN4-00707	1	GROUND STRAP
3	3747361	1	SWITCH - NEUTRAL SAFETY AND BACKUP LIGHT
4	4856444 (2.2/2.5)	1	DIPSTICK - TRANSMISSION FLUID
4	TT08-54-002-SA (2.0/2.2)	1	DIPSTICK - TRANSMISSION FLUID
5	5240849	2	DOWEL PIN - TRANS TO ADAPTOR/ENGINE ALIGNMENT
6	SEE NOTE*	1	TORQUE CONVERTER
7	A-TT4-00419	1	TRANSAXLE SHIFT LEVER - MANUAL CONTROL
9	85705	1	GASKET AND FILTER MAINTENANCE PACKAGE

*Torque converters may vary. Please contact Eagle for further information.

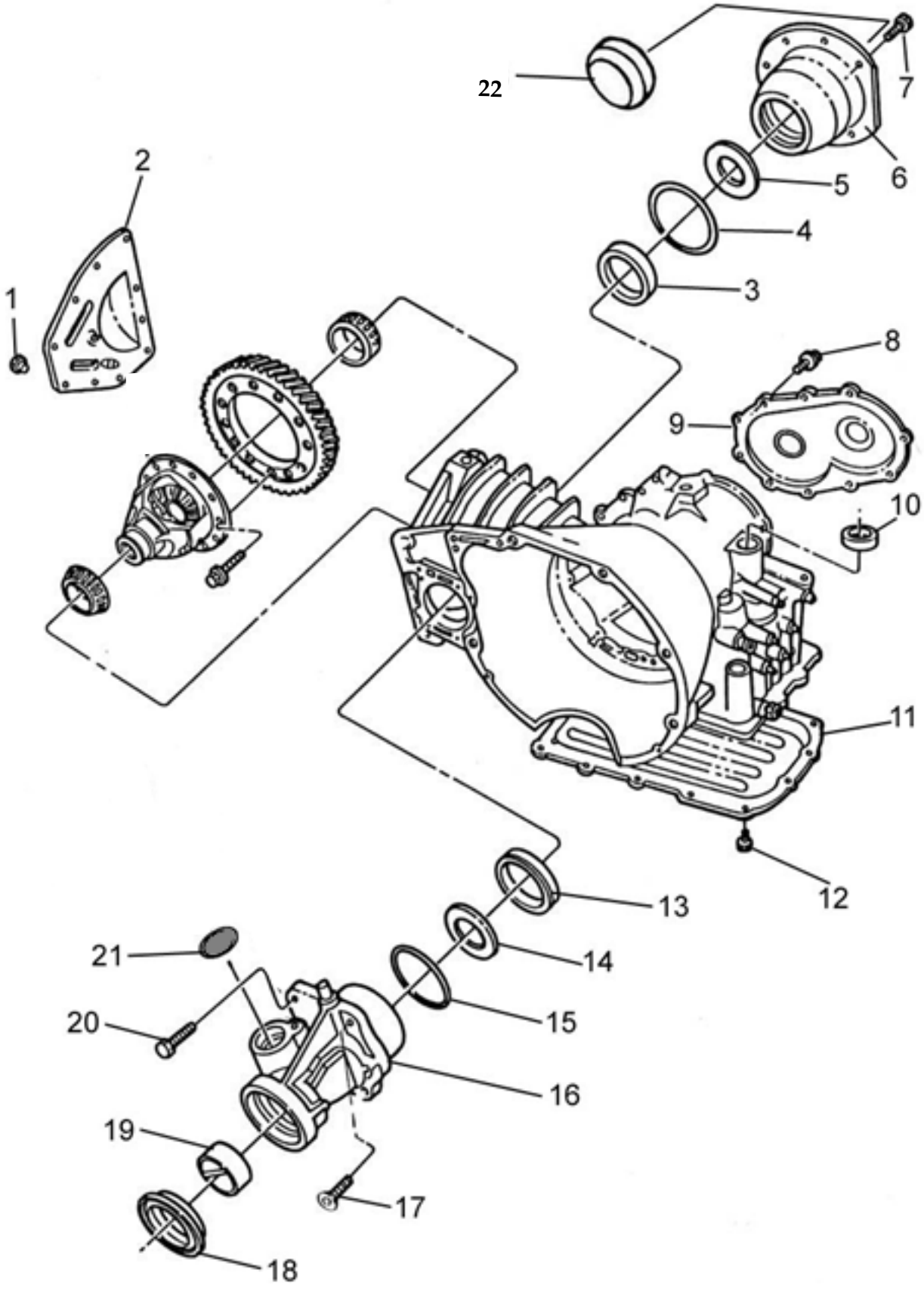
Transmission replacement kit part numbers and application guide:

Kit Number	Application
TT08-54-003-KA	TT4-8 Ford/TME-Gas/TME-Diesel/Yanmar AWD
TT08-54-004-KA	TT4-8 Isuzu/Chrysler AWD
TT08-54-005-KA	TT4-8 Ford/TME-Gas/TME-Diesel/Yanmar 2WD
TT08-54-006-KA	TT4-8 Isuzu/Chrysler 2WD

See Service Bulletin ESB-01-15 for more information.

Transmission

TRANSAXLE CASE EXTENTION & RETAINER (ALL TT 4-8 MODELS)



TRANSMISSION

TRANSAXLE CASE EXTENTION & RETAINER (ALL TT 4-8 MODELS)

Item	Part Number	Qty	Description
1	6501474	10	SCREW-HEX CAP-WASH M8-1.25 X 16
2	4471573	1	PAN
3	NPN	1	CUP(NOT SOLD SEPARATELY)
4	4504568	1	SPACER KIT
5	4269787	1	RETAINER, OIL
6	4329829	1	RETAINER, BEARING
	6500368	6	SCREW-HEX CAP-M8 X 1.25 X 23
7	NPN	6	SCREW-HEX CAP-WASH HEAD M8-1.25 X 2
8	NPN	10	SCREW-HEX CAP M8-1.25 X 15
9	4659342	1	COVER, TRANS. END
	82180	1	RTV SEALANT
	6501474	10	SCREW-HEX CAP WASH M8-1.25 X 16
10	3878447	1	SEAL, MANUAL VALVE SHAFT
11	4471573	1	PAN, TRANSAXLE OIL
12	6501474	12	SCREW-HEX CAP WASH M8-1.25 X 16
	6101285	1	SCREW-HEX CAP-WASH M6-1 X 16
13	4567022	1	CUP
14	4567494	1	RETAINER
15	6500111	1	O-RING
16	A-TT5D-00011-MOD	1	*TRANSMISSION CONE
	6500511	4	SCREW-HEX CAP-WASH M8-1.25 X 33
17	NPN	2	M8 HEX HEAD SCREW
18	4412522	1	SEAL
19	NPN	1	BUSHING (SERVICED IN EXT.)
20	NPN	4	SCREW-HEX CAP WASH HEAD M8-1.25 X 30
21	A-TT4-00658	1	TRANS EXP PLUG
22	A-TT4-00657	1	TRANSMISSION PLUG (2WD ONLY)

*PLEASE HAVE TUG MODEL AND SERIAL NUMBER AVAILABLE WHEN ORDERING THIS PART

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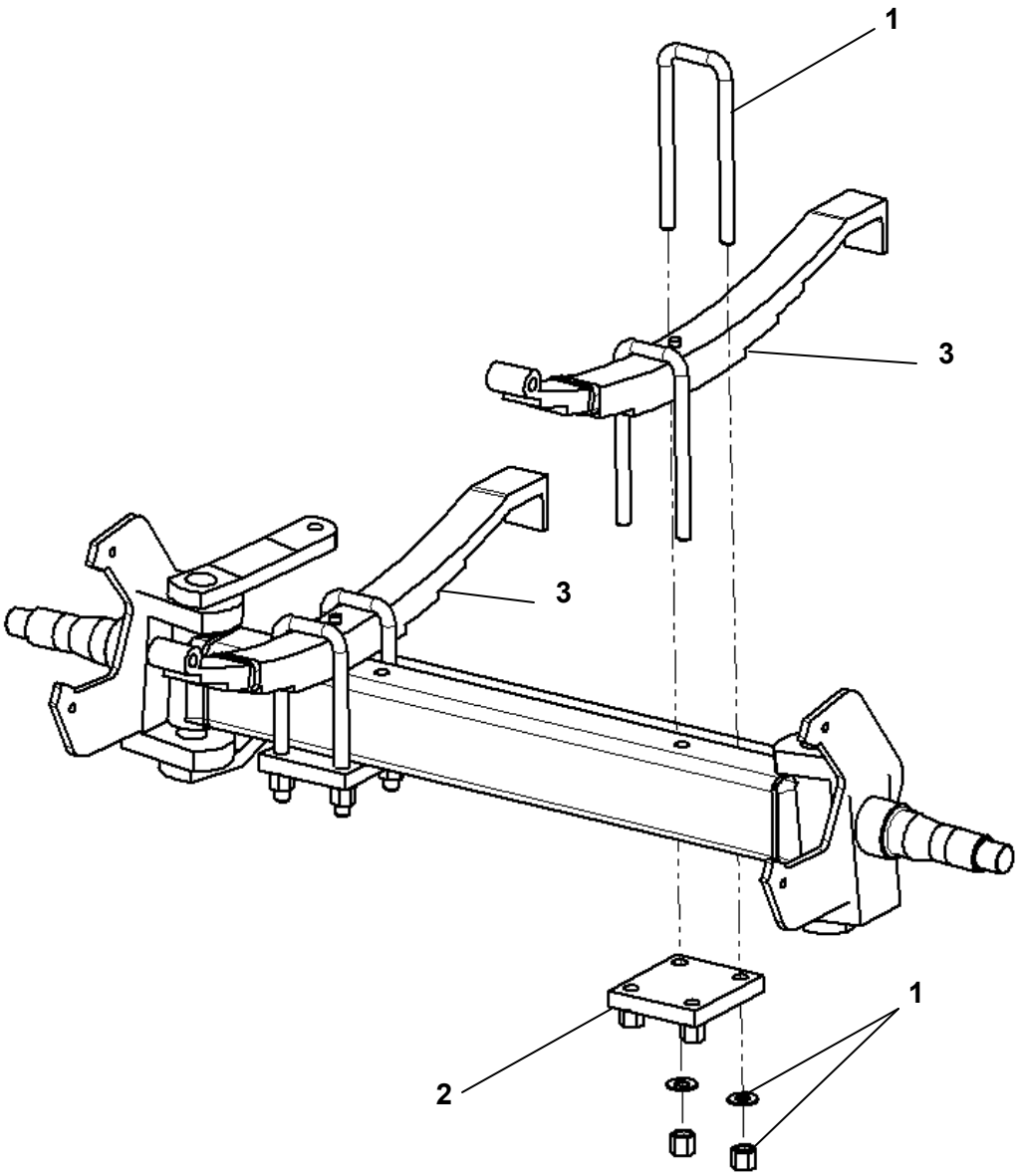
AXLES

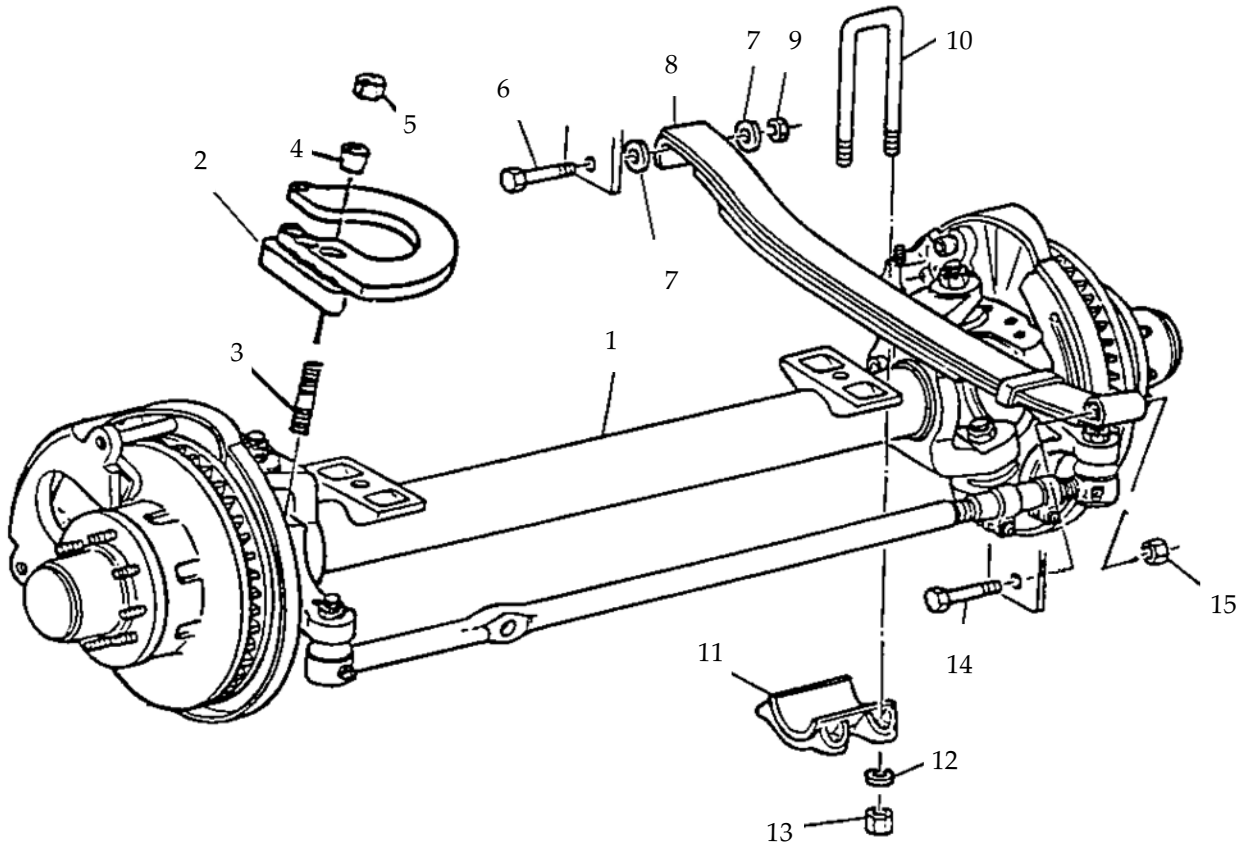
AXLE ASSEMBLY—BRIERTON FRONT NON-DRIVE TT4-TT6 2WD ONLY



Item	Part Number	Qty	Description
1	A-TT10-00117	4	U-BOLT KIT
2	A-TT4-00113	2	SPRING MOUNT PAD
3	A-TT4-00116	2	LEAF SPRING

AXLES

AXLE ASSEMBLY—FRONT NON-DRIVE TT4-TT6 2WD ONLY

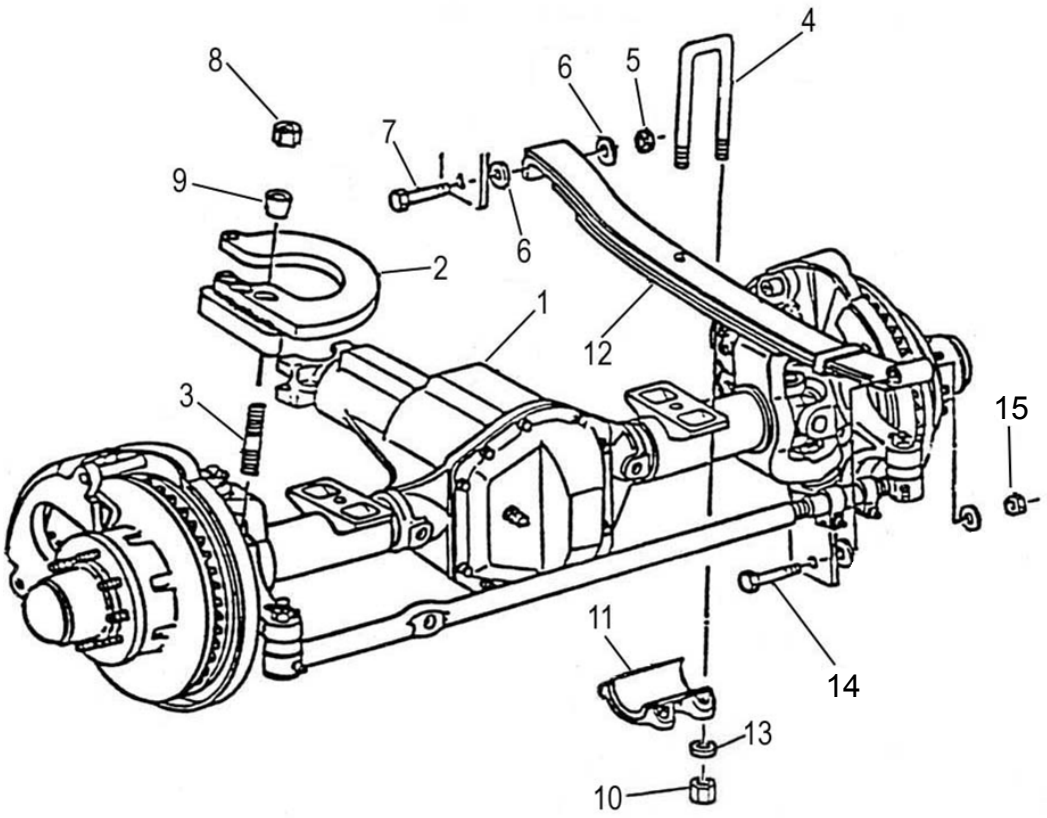


Item	Part Number	Qty	Description
1	A-TT4-00111	1	AXLE ASSY-FRONT NON-DRIVE
2	C-TT4-00113-1-MACH	1	STEERING ARM - TT4-6 2WD
3	A-TT8-00115	3	STUD-STEERING ARM
4	3965138	3	BUSHING
5	NPN	3	HEX NUT, 9/16-18 UNF, GR 8
6	NPN	2	HCS, 3/8-16 UNC X 3.5, GR 8
7	NPN	4	FLAT WASHER, 3/8
8	A-TT4-00116	2	LEAF SPRING
9	NPN	2	LOCK NUT, 3/8-16 UNC
10	A-TT4-00362-1	4	U-BOLT KIT
11	A-TT4-00363	2	AXLE CLAMP PLATE
12	A-TT4-00366**	8	WASHER, U-BOLT
13	A-TT4-00365**	8	NUT, U-BOLT
14	NPN	2	HCS, 9/16-18 UNF X 3.5, GR 8
15	NPN	2	LOCK NUT, 9/16-18 UNF

**INCLUDED IN U-BOLT KIT

AXLES

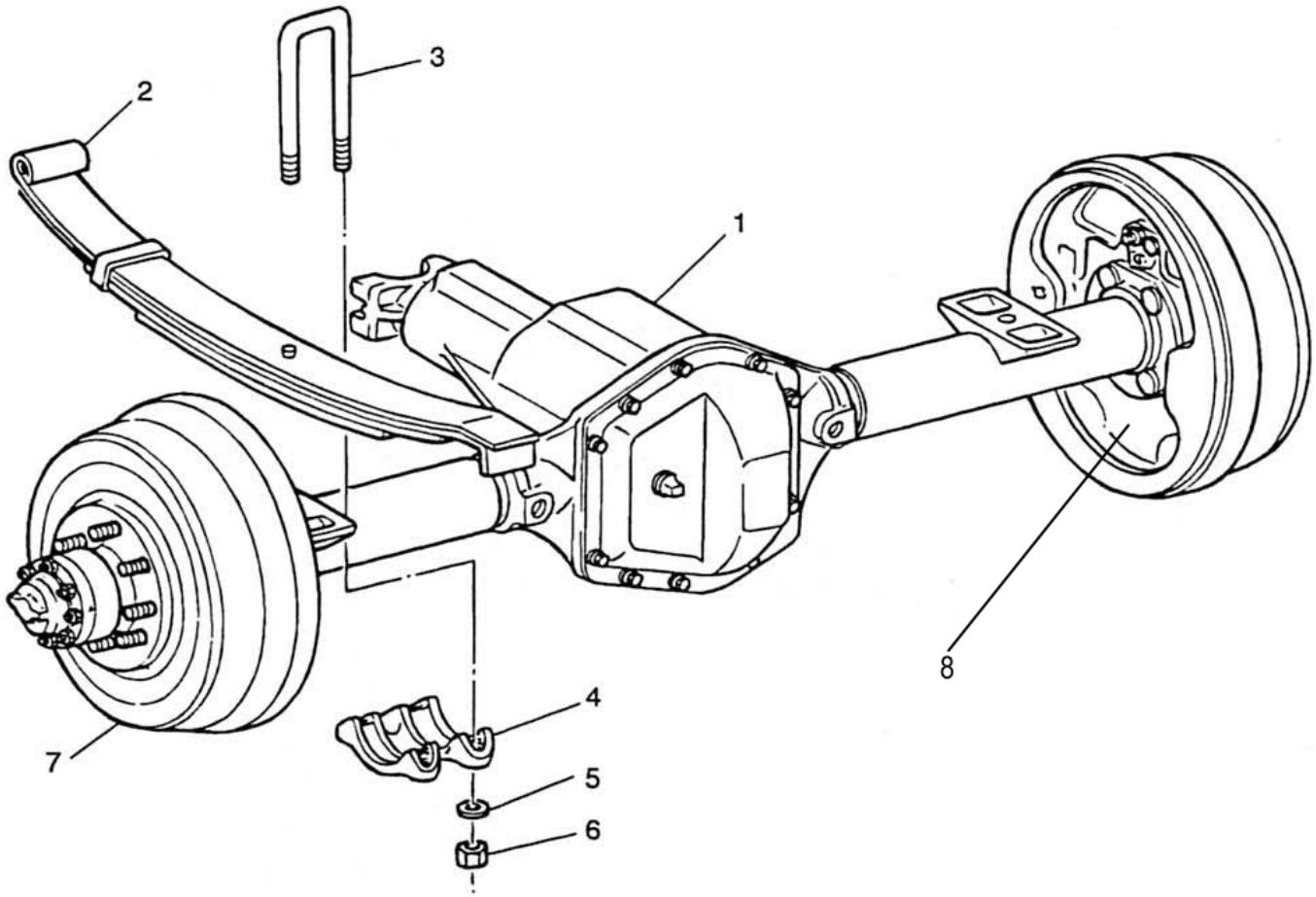
AXLE ASSEMBLY—FRONT DRIVE (ALL WHEEL DRIVE)



Item	Part Number	Qty.	Description
1	A-TT8-00371	1	FRONT DRIVE AXLE ASSEMBLY
2	C-TT4-00113-2-MACH	1	STEERING ARM - TT4-TT8/2 AWD
3	A-TT8-00115	3	STUD - STEERING ARM
4	TT08-04-004-CA	4	U-BOLT, TT4-8 AXLE, 7.625 LG
5	NPN	4	LOCK NUT, 3/8 X 16
6	NPN	4	FLAT WASHER, 3/8
7	NPN	4	HCS, 3/8-16 UNC X 3.5
8	NPN	3	NUT, 9/16-18, GR 8
9	3965138	3	BUSHING
10	A-TT4-00365	8	NUT, U-BOLT
11	TT08-04-003-SA	2	AXLE SADDLE CLAMP, TT4-8
12	A-TT4-00116	2	LEAF SPRING
13	A-TT4-00366	8	WASHER, U-BOLT
14	NPN	2	HCS, 9/16-18 UNF X 3.5, GR 8

AXLES

AXLE ASSEMBLY— REAR (ALL TT 4-8 MODELS)



Item	Part Number	Qty	Description
1	A-TT4-00361**	1	REAR AXLE ASSEMBLY
2	A-TT4-00116	2	LEAF SPRING
3	A-TT4-00362-1	4	U-BOLT KIT
4	A-TT4-00363	2	AXLE CLAMP PLATE
5	A-TT4-00366*	8	WASHER
6	A-TT4-00365*	8	NUT
7	4313905	1	LEFT HAND BACKING PLATE
8	4313904	1	RIGHT HAND BACKING PLATE

*INCLUDED IN U-BOLT KIT

**CALL EAGLE TUGS FOR INFORMATION IF YOUR TUG IS EQUIPPED WITH LIMITED SLIP

AXLES

RECOMMENDED TORQUE SPECIFICATIONS FOR DANA 44 AXLE (FRONT)

POSITION	THREAD	WRENCH TORQUE (LBS.-FT)
Drive Pinion Nut	3/4 - 16	175-225
Differential Bearing Cup Cap Screws	1/2 - 13	70-90
Ring Gear Cap Screws	3/8 - 24	45-65
Cover Screws	5/16 - 18	28-33 (Note A)
Axle Shaft Bearing & Brake Retainer Nuts	3/8 - 24	40-50
Spindle Mounting Nuts	3/8 - 24	40
Spindle Mounting Nuts	7/16 - 20	50-60
Tie Rod Stud Nut	1/2 - 20	35 Min (Note B)
Tie Rod Stud Nut	9/16 - 18	35 Min (Note B)
Tie Rod Clamp Nuts	3/8 - 24	15-25
Tie Rod Clamp Nuts	7/16 - 20	25-40
Steering Arm Nuts	9/16 / 18	80-100
Steering Bolt Stop Screw & Jam Nut	3/8 - 24	10-20

RECOMMENDED TORQUE SPECIFICATIONS FOR DANA 60 AXLE (REAR)

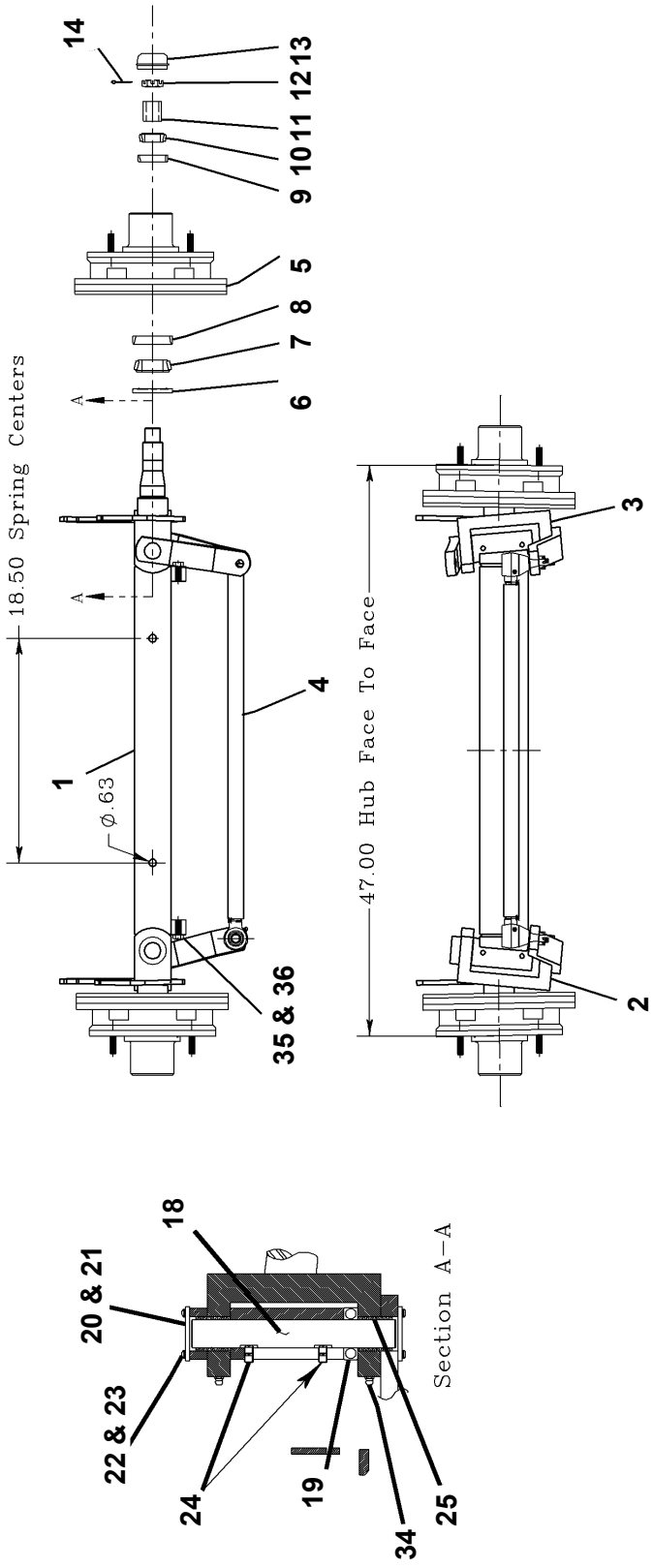
POSITION	THREAD	WRENCH TORQUE (LBS.-FT)
Drive Pinion Nut	7/8 - 14	240-300
Differential Bearing Cup Cap Screws	1/2 - 13	70-90
Ring Gear Cap Screws	1/2 - 20	100-120
Ring Gear Cap Screws	1/2 - 20	120-14 (Note A)
Cover Screws	3/8 - 16	30-40
Brake Retainer Nuts	7/16 - 20	64-70
Axle Shaft Flange Nuts	7/16 - 20	64-70
Upper Kingpin	1 1/8 - 12	500-600
Kingpin Cap Cap Screws	1/2 - 20	70-90
Spindle Mounting Nuts	1/2 - 20	60-80
Tie Rod Stud Nut	5/8 - 18	70 Min (Note B)
Tie Rod Clamp Nuts	1/2 - 20	35-45
Steering Arm Nuts	1/2 - 20	70-90
Steering Bolt Stop Screw & Jam Nut	1/2 - 20	10-20

A. For Grade 9 fastener with locking serrations on underside of cap screw head or nut.

B. If cotter pin cannot be installed after minimum torque is attained, the nut must be advanced until cotter pin can be installed.

AXLES

AXLE ASSEMBLY BREAKDOWN—BRIERTON FRONT NON-DRIVE (2WD) ONLY



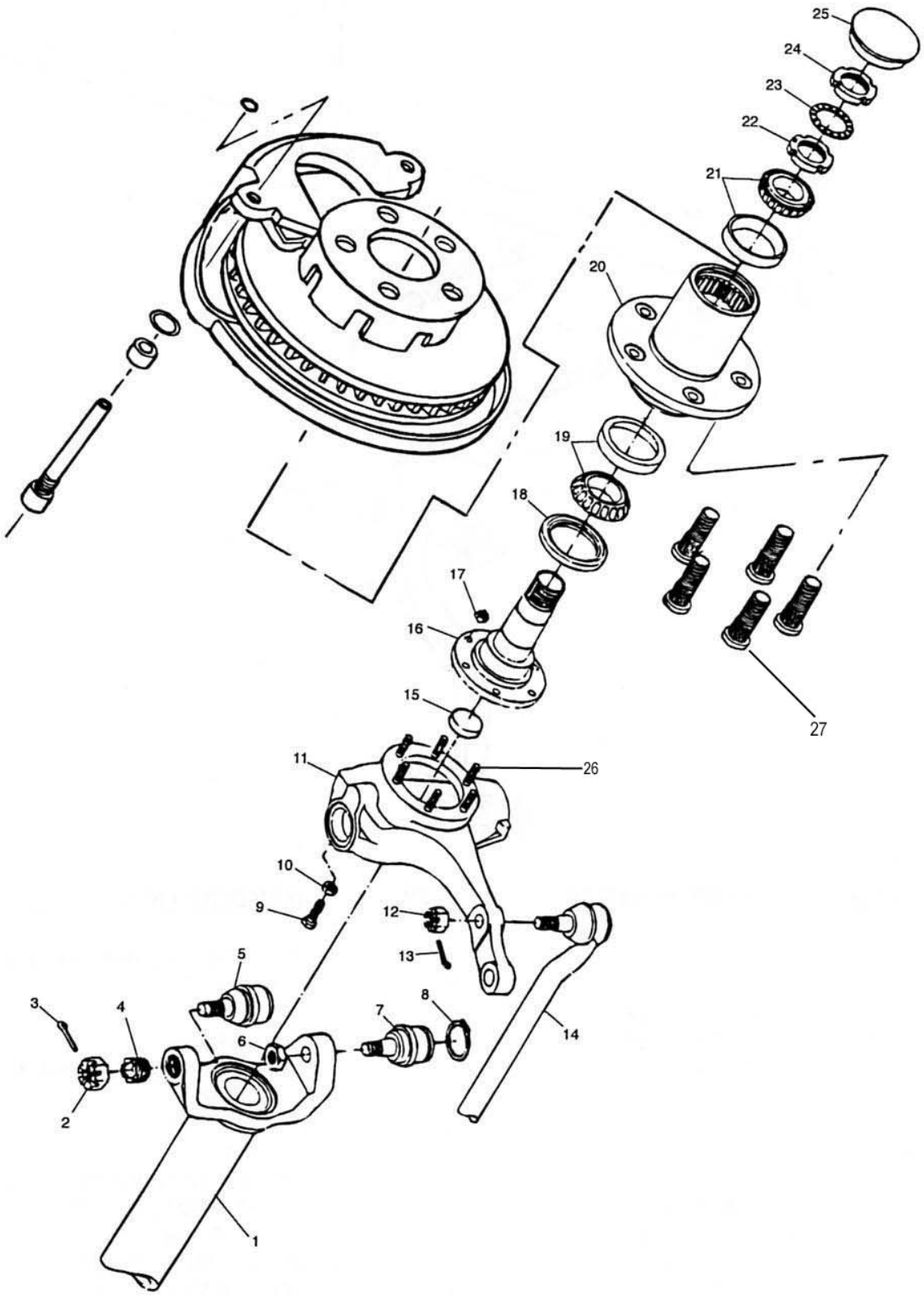
AXLES

AXLE ASSEMBLY BREAKDOWN –BRIERTON FRONT NON-DRIVE (2WD) ONLY

Item	Part Number	Qty	Description
1	03-30910	1	AXLE BEAM WELDMENT
2	03-30913	1	LH KNUCKLE WELDMENT
3	03-30912	1	RH KNUCKLE WELDMENT
4	02-21048	1	TIE ROD ASSEMBLY
5	06-61742	2	HUB & ROTOR
6	06-61779	2	OIL SEAL, CHICAGO RAWHIDE CR 24898
7	130513100	2	INNER CONE, TIMKEN LM104949
8	06-61794	2	INNER CUP, TIMKEN JLM104910
9	06-61795	2	OUTER CUP, TIMKEN LM501310
10	06-61781	2	OUTER CONE, TIMKEN LM501349
11	06-61756	2	SPINDLE NUT SPACER
12	323400160	2	NUT, 1.25-12 SLOTTED
13	06-61743	2	GREASE CAP, 044HK01
14	324604160	2	COTTER PIN
18	06-61688	2	KING PIN
19	06-60498	2	T126 THRUST BEARING
20	06-60547	4	KING PIN CAP STD
21	06-61376	4	KING PIN CAP GASKET
22	06-61080	8	10-24 BHC SCREW
23	06-61081	8	#10 LOCK WASHER
24	06-60811	8	3/8-16 SET SCREW
25	06-61721	4	KING PIN BUSHING
28	06-1746K RH	1	CALIPER RH
29	06-61747K LH	1	CALIPER LH
30	RD52	1	BRAKE PAD
31	06-61749	2	RETAINER, INBOARD BRAKE PAD
32	06-61750	4	CALIPER MOUNTING BOLT
33	06-61751	2	SLEEVE RETAINING BOLT
34	390406410	4	GREASE ZERK, 1/4-28 UNF
35	321800090	2	NUT, 1./2-13 HEX JAM
36	320224100	2	1.2-13 X 2 HHCS GR 5

AXLES

AXLE ASSEMBLY BREAKDOWN— FRONT NON-DRIVE (2WD)



AXLES

AXLE ASSEMBLY BREAKDOWN –FRONT NON-DRIVE (2WD)

Item	Part Number	Qty	Description
1	29775-29X	1	TUBE ASSEMBLY
2	44101	2	NUT-SLOTTED
3	500024-8	2	PIN-COTTER
4	35417	2	RING-ADJUSTING
5	40112	1	SOCKET ASSEMBLY UPPER
6	35566	2	NUT-LOCK
7	40113	1	SOCKET ASSEMBLY LOWER
8	35928	1	RING-SNAP
9	31026-1	2	BOLT-STOP
10	500381-3	2	NUT-JAM
11	706652X	KIT	STEERING KNUCKLE R/H INCLUDES ITEMS 33-39 & 42
11	706653X	KIT	STEERING KNUCKLE L/H INCLUDES ITEMS 33-39 & 42
12	44101	2	NUT-SLOTTED
13	500024-6	2	PIN-COTTER
14	044TR115-16X	1	TIE ROD ASSEMBLY
15	36544	2	PLUG-CAP
16	38428	2	SPINDLE-WHEEL BEARING
17	35704	12	NUT-LOCK
18	36361	2	SEAL-LOCK
19	706690-X	KIT	INNER WHEEL BEARING
20	044HU103	2	HUB & ROTOR ASSEMBLY
21	706111-X	KIT	OUTER WHEEL BEARING
22	21588X	2	SPINDLE NUT
23	36569	2	LK WASHER-WHEEL BRG NUT
24	31139	2	NUT-SPINDLE
25	31552	2	CAP-HUB
26	36326-2	6	STUD STEERING KNUCKLE
N/S	044WC101-2	1	CALIPER ASSEMBLY R/H
N/S	044WC101-1	1	CALIPER ASSEMBLY L/H
N/S	044WB101-1	1	BRACKET ASSEMBLY-CALIPER L/H
N/S	044WB101-2	1	BRACKER ASSEMBLY-CALIPER R/H
27	610286	8	WHEEL STUDS

Recommended tools:

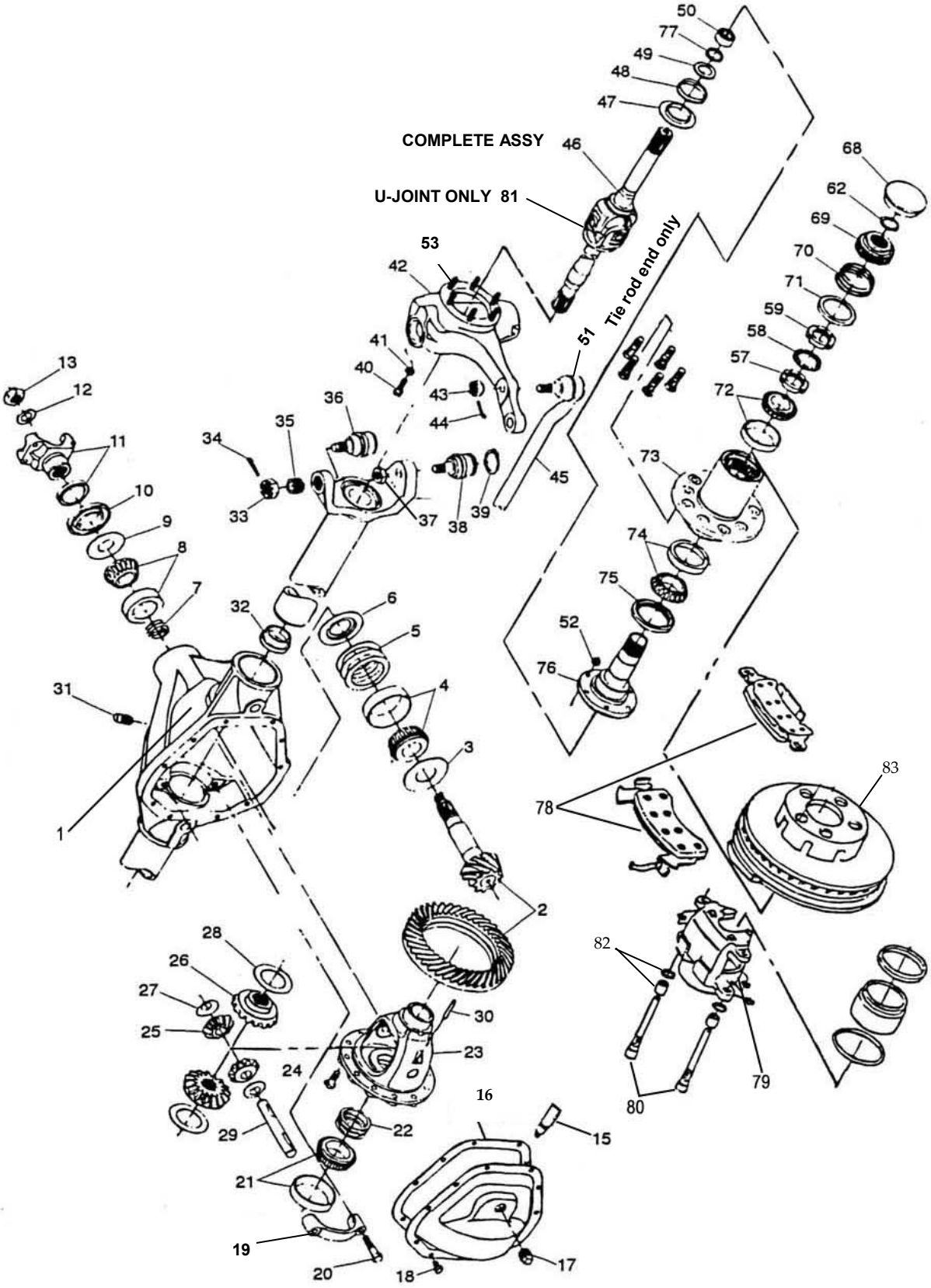
OTC 7157 To remove Front Axle Spindle Nut (Dana 44)

OTC 7080 To remove Front Axle Top Ball Joint (Dana 44)

OTC 1902 To remove Front & Rear Axle Spindle Nut (Dana 70)

AXLES

AXLE ASSEMBLY BREAKDOWN—FRONT DRIVE (ALL WHEEL DRIVE)



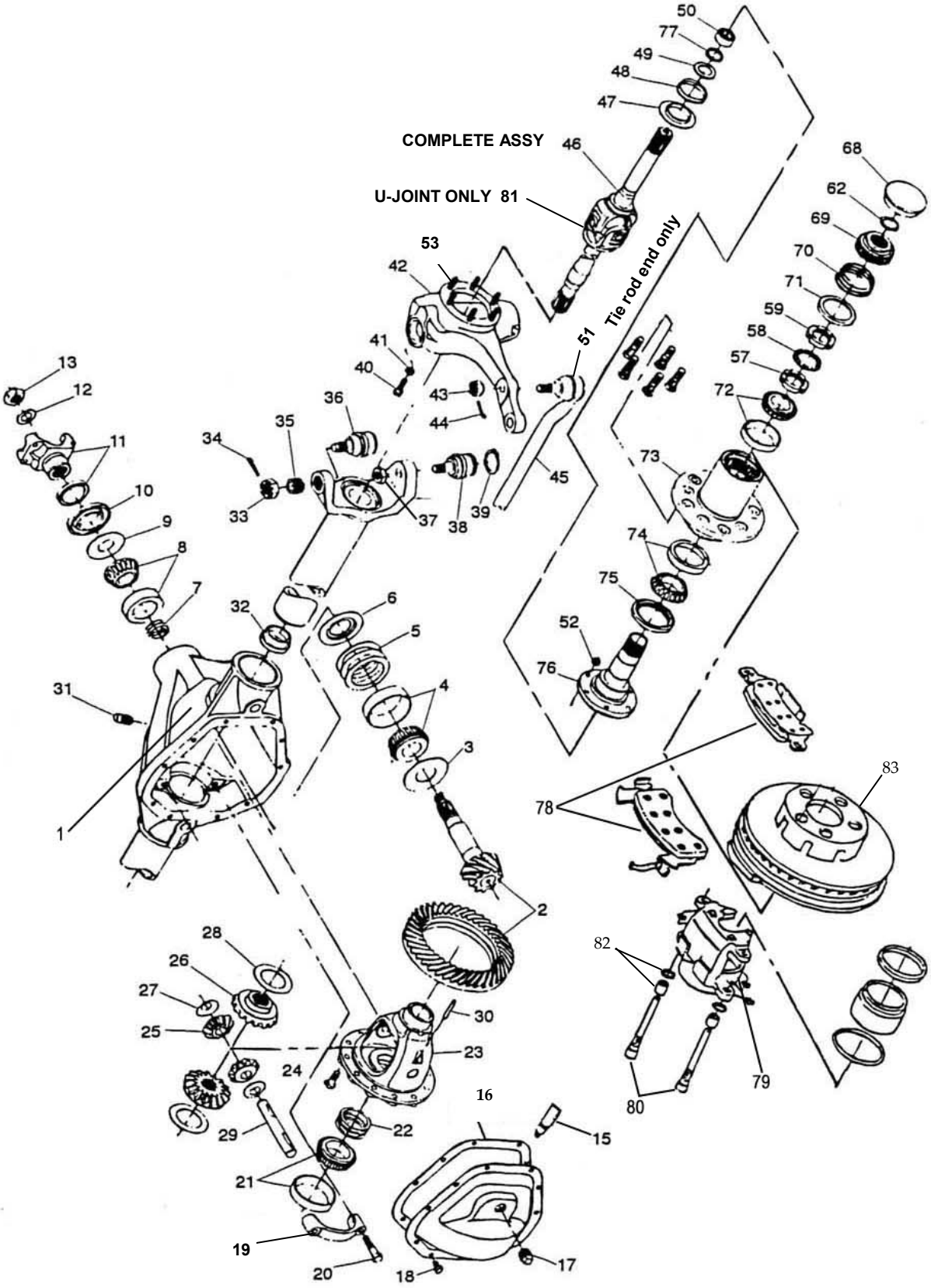
AXLES

AXLE ASSEMBLY BREAKDOWN—FRONT DRIVE (ALL WHEEL DRIVE)

Item	Part Number	Qty	Description
1	A-TT8-00371	1	COMPLETE AXLE ASSEMBLY
2	22404X	1	GEAR & PINION ASSEMBLY
3	30764	1	SLINGER-PINION OIL INNER
4	706031X	KIT	INNER PINION BEARING
5	706617X	KIT	SHIM-PINION ADJ INC ITEMS 5,7,12,13,15,15A
6	30765	1	BAFFLE-PINION OIL
7	706617X	KIT	SEE ITEM 5
8	706030	KIT	OUTER PINION BEARING & RACE
9	13575	1	SLINGER-PINION OIL OUTER
10	39118	1	SEAL-OIL
11	345761X	1	END YOKE ASSEMBLY
12	30186	1	WASHER-PINION NUT
13	30185	1	NUT-PINION
15	82180	AR	RTV SEALANT
16	34685	1	GASKET
17	36472	1	PLUG-COVER PLATE
18	34279	10	SCREW-FLANGE HD
19	N/A	2	CAP DIFFERENTIAL BEARING NOT SERVICED SEPERATELY
20	48632-1	2	1/2-13 X 2.25 GRD8 HEX BOLT
21	706032X	KIT	DIFFERENTIAL BEARING & RACE
22	706618X	KIT	DIFFERENTIAL SHIM INC ITEMS 22,15 &15A
23	25806X	1	CASE-DIFFERENTIAL ASSY
	32684	1	CASE-DIFFERENTIAL
24	41221	10	BOLT-DRIVE GEAR
25	17717	2	PINION-DIFFERENTIAL
26	706027X	2	GEAR-DIFF KIT INC ITEMS 15A & 24-29
27	13338-3	2	THRUST WASHER DIFFERENTIAL PINION
28	32121	2	THRUST WASHER DIFFERENTIAL GEAR
29	39194	1	SHAFT-DIFFERENTIAL
30	13449	1	PIN-ROLL
31	16979	1	VENT
32	36352	2	SEAL & GUIDE-SHAFT
33	44101	2	NUT-SLOTTED
34	500024-8	2	PIN-COTTER
35	35417	2	RING-ADJUSTING
36	40112-1	1	SOCKET ASSEMBLY-UPPER
37	35566	2	NUT-LOCK
38	40113-1	1	SOCKET ASSEMBLY-LOWER
39	35928	1	RING-SNAP

AXLES

AXLE ASSEMBLY BREAKDOWN—FRONT DRIVE (ALL WHEEL DRIVE)



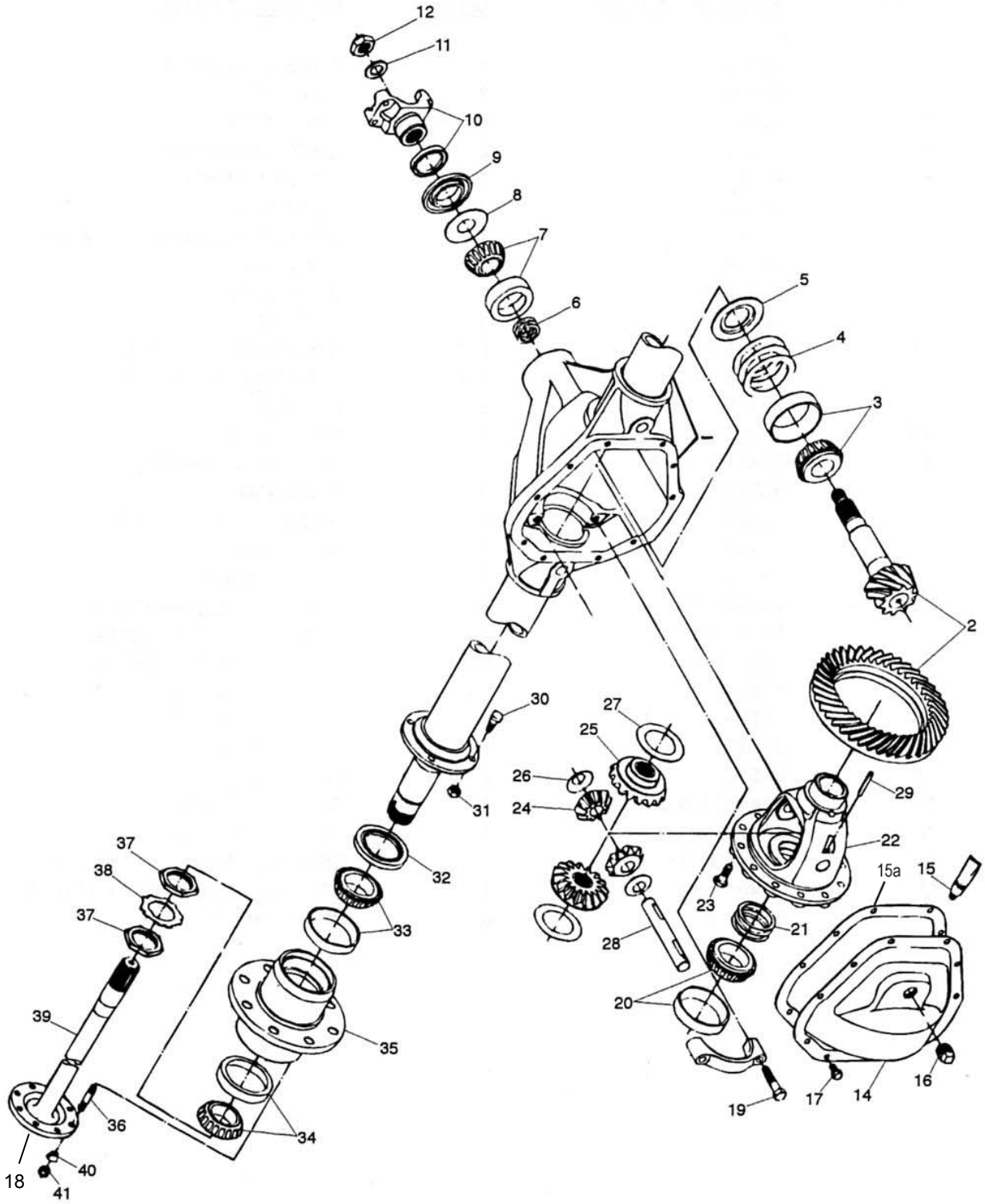
AXLES

AXLE ASSEMBLY BREAKDOWN—FRONT DRIVE (ALL WHEEL DRIVE)

Item	Part Number	Qty	Description
40	310026-2	2	BOLT-STOP
41	500381-3	2	NUT-LOCK
42	706653X	KIT	STEERING KNUCKLE L/H, INCLUDES ITEMS 33-39,42 & 53
42	706652X	KIT	STEERING KNUCKLE R/H, INCLUDES ITEMS 33-39,42 & 53
43	44101	2	NUT-SLOTTED
44	500024-4	2	PIN-COTTER
45	044TR115-16X	1	TIE ROD ASSEMBLY
46	660091-18	2	SHAFT & JOINT ASSY INC ITEM 47
47	36364	1	SLINGER
48	38128	2	SEAL-OIL
49	38106	2	SPACER
50	550759	2	BEARING-NEEDLE
51	044TR119	2	TIE ROD END ONLY FOR ITEM 45
52	500381-3	12	NUT-LOCK FOR ITEM 53
53	36326-2	12	STUD FOR ITEM 42
57	21588X	2	SPINDLE NUT
58	36569	2	LOCK-RETAINING NUT
59	31139	2	NUT-SPINDLE
62	31624	2	RING-SNAP
68	31552	2	CAP-HUB
69	42667	2	GEAR-AXLE DRIVE
70	35218	2	SPRING PRESSURE
71	32589	2	PLATE-SPRING RETAINING
72	706111X	KIT	OUTER WHEEL BEARING & RACE
73	044HU103	2	HUB & ROTOR ASSEMBLY
74	706690-X	KIT	INNER WHEEL BEARING & RACE
75	36366	2	AXLE SEAL
76	706570	KIT	SPINDLE ASSEMBLY INCLUDES ITEMS 48,49,50,77 & 76
	706527X	KIT	SPINDLE SEAL & BEARING INCLUDES ITEMS 50,77,48 & 49
77	36361	1	SEAL-OIL
78	RD52	1 SET	BRAKE PAD SET
79	18009659	1	CALIPER WITHOUT PADS -R/H
79	18009658	1	CALIPER WITHOUT PADS-L/H
79	044WC101-1	1	CALIPER ASSY WITH PADS L/H
79	044WC101-2	1	CALIPER ASSY WITH PADS R/H
80	5468226	1SET	ANCHOR BOLTS
81	5-297-1X	2	GREASABLE U-JOINT FOR ITEM 46
82	H5539	1	CALIPER BUSHING AND O-RING KIT
83	BD60427	2	ROTOR

AXLES

AXLE ASSEMBLY BREAKDOWN—REAR DRIVE



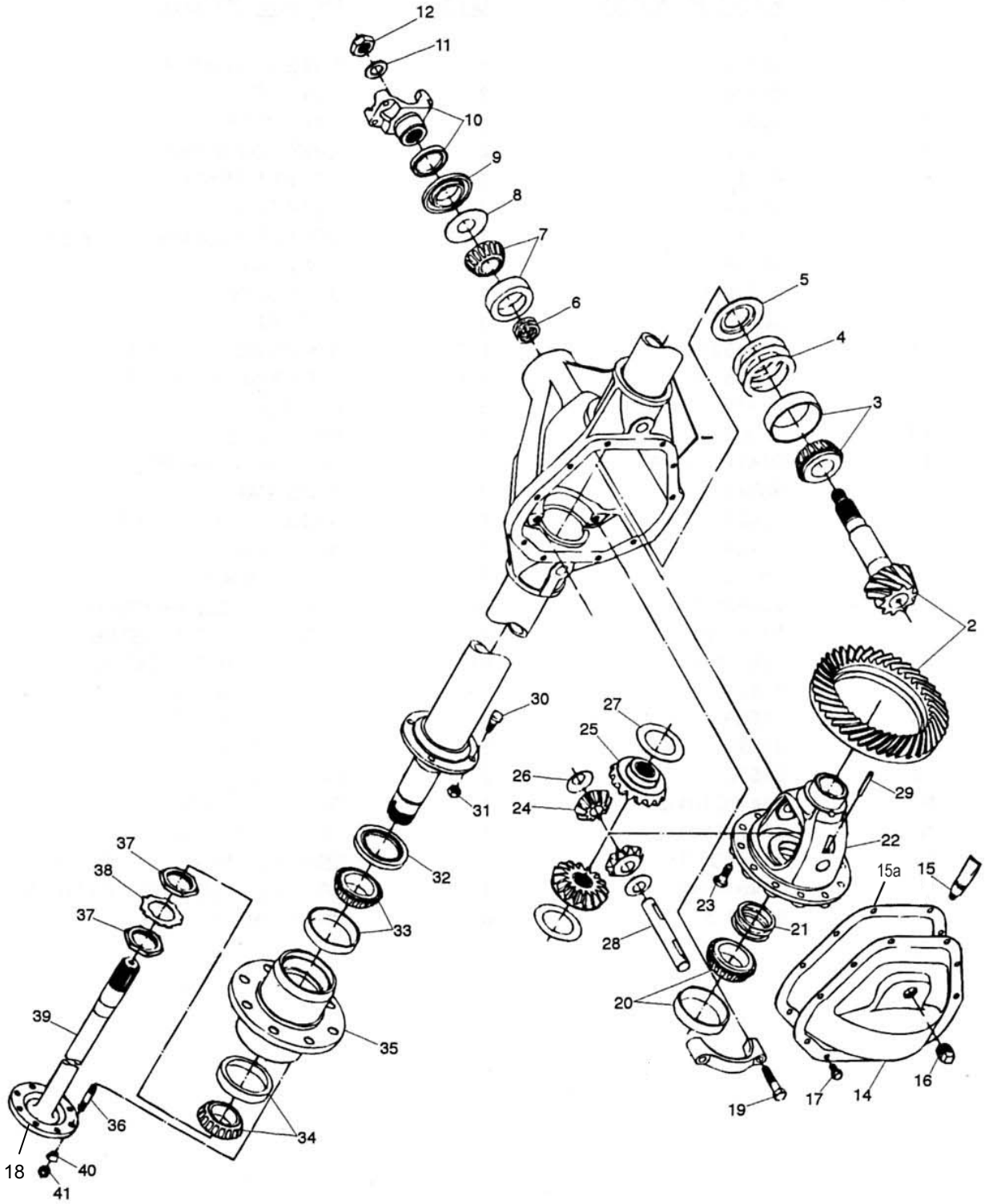
AXLES

AXLE ASSEMBLY BREAKDOWN—REAR DRIVE

Item	Part Number	Qty	Description
	A-TT4-00361	1	COMPLETE AXLE ASSEMBLY
2	706033-10X	KIT	DRIVE GEAR & PINION
3	706046X	KIT	INNER PINION BEARING & RACE
4	706672X	KIT	SHIM-DRIVE PINION ADJUSTING
5	30765	1	BAFFLE-PINION BEARING
6	706672X	KIT	SHIM-PINION BEARING ADJUSTING
7	706045X	KIT	OUTER PINION BEARING & RACE
8	30273	1	SLINGER-PINION BEARING
9	38427	1	SEAL-PINION
10	345731X	1	END YOKE ASSEMBLY
11	30275	1	WASHER-PINION NUT
12	30271	1	NUT-PINION
14	73597	1	COVER ASSEMBLY
15	82180		RTV SEALANT
15a	39697	1	COVER GASKET
16	98785	1	PLUG-PIPE SLOTTED
17	34822	10	SCREW-FLANGE HD
18	39697	1	AXLE SHAFT GASKET
19	48632-1	2	1/2-13 x 2.25 GRD8 BOLT BEARING CAP
20	706047X	KIT	BEARING & RACE
21	706673X	KIT	SHIM-DIFFERENTIAL BEARING
22	706669X	KIT	CASE-DIFFERENTIAL
23	30266	10	BOLT-DRIVE GEAR
24	SEE KIT ITEM 43 OR 44	KIT	PINION-DIFFERENTIAL
25	SEE KIT ITEM 43 OR 44	KIT	GEAR-DIFFERENTIAL
26	SEE KIT ITEM 43 OR 44	KIT	THRUST WASHER-PINION
27	SEE KIT ITEM 43 OR 44	KIT	THRUST WASHER-GEAR
28	SEE KIT ITEM 43 OR 44	KIT	SHAFT-DIFFERENTIAL
29	500598-21	1	LOCK-DIFFERENTIAL
30	36253	8	BOLT-BRAKE MANUFACTURING
31	36805	8	NUT-BRAKE MANUFACTURING
32	36240	2	SEAL-OIL
33	706071X	KIT	INNER WHEEL BEARING
34	706072X	KIT	OUTER WHEEL BEARING
35	36241	2	HUB & DRUM ASSEMBLY
36	36847	8	STUD-HUB

AXLES

AXLE ASSEMBLY BREAKDOWN—REAR DRIVE



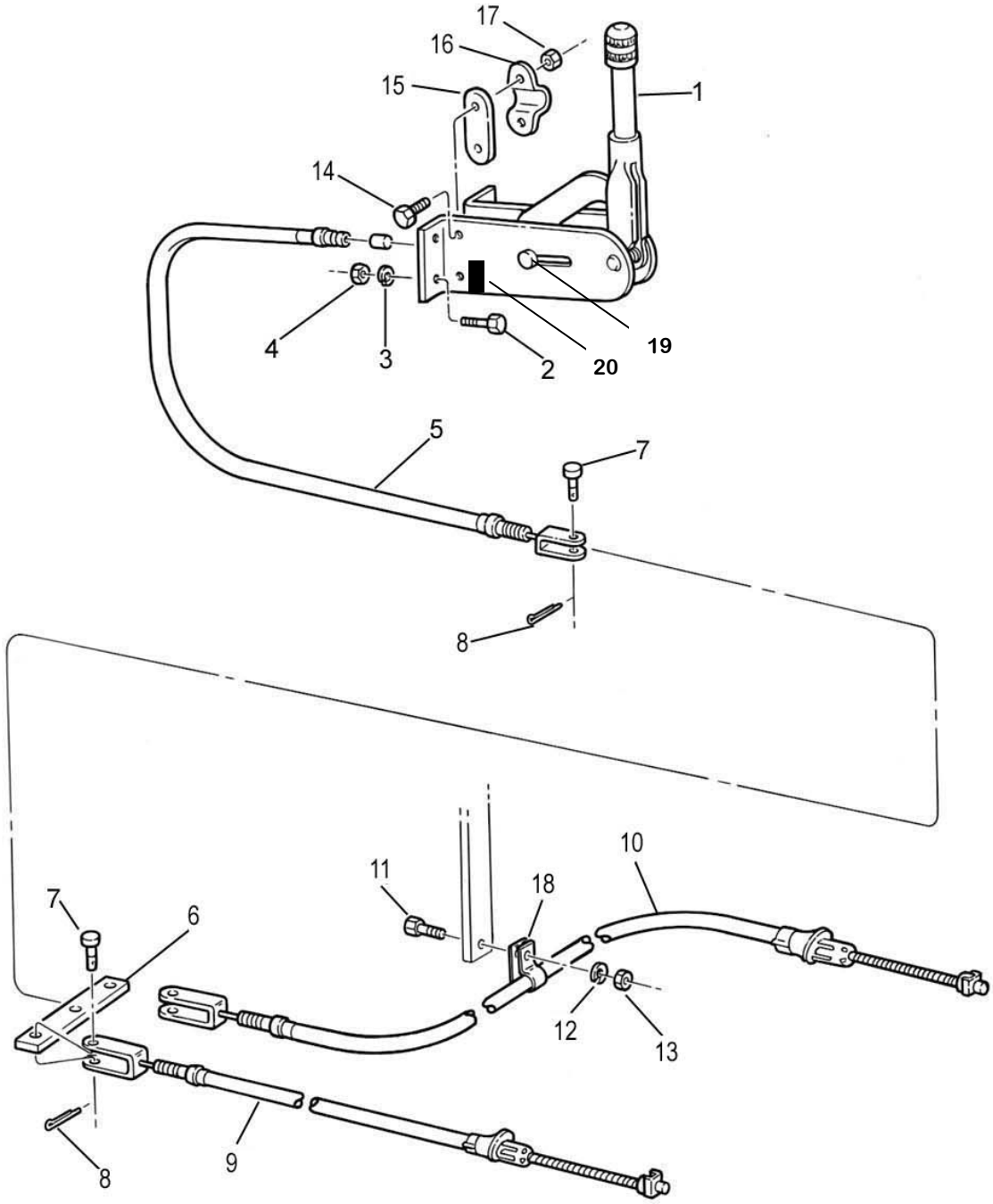
AXLES

AXLE ASSEMBLY BREAKDOWN—REAR DRIVE CONT

Item	Part Number	Qty	Description
37	30636	4	NUT-SPINDLE
38	30637	2	LOCK WASHER WHEEL BEARING
39	34887-7	1	SHAFT-AXLE FLANGE LONG
	34887-10	1	SHAFT-AXLE FLANGE SHORT
40	31534	16	ADAPTER-STUD
41	36805	24	NUT-LOCK
42	16979	1	VENT
43	706671X	1	DIFF PARTS (STD) INC 15, 21-23, 29
44	707084X	1	DIFF PARTS (LTD SLIP) INC 15, 21, 23, 24, 26, 28, 29, 43

BRAKES

PARKING BRAKE ACTUATOR ASSEMBLY



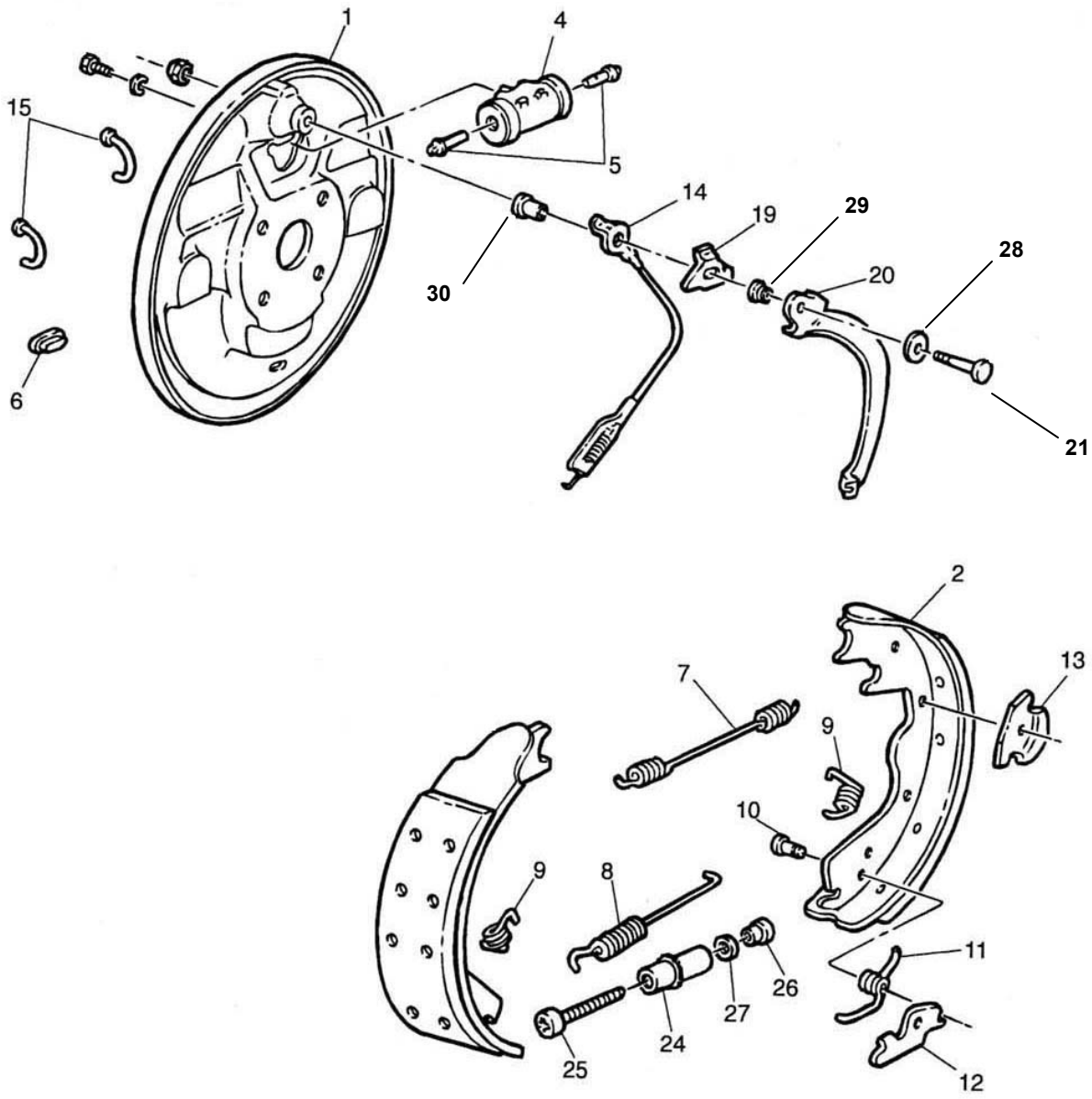
BRAKES

PARKING BRAKE ACTUATOR ASSEMBLY

Item	Part Number	Qty	Description
1	A-TT4-00141	1	HAND BRAKE
2	NPN	4	SCREW-HEX CAP-5/16-18 X 1
3	NPN	4	WASHER-FLAT-5/16
4	NPN	4	NUT-LOCK-5/16-18
5	B-TT4-00145	1	CABLE PRIMARY
6	A-TT4-00146	1	BAR EQUALIZER
7	A-TT4-00193	3	CLEVIS PIN
8	NPN	3	COTTER PIN
9	A-TT4-00151	1	PARKING BRAKE CABLE LEFT REAR
10	A-TT4-00150	1	PARKING BRAKE CABLE RIGHT REAR
11	NPN	1	SCREW-HEX CAP-14-20 X 1
12	NPN	1	WASHER-FLAT-1/4
13	NPN	1	NUT-LOCK-1/4-20
14	NPN	1	SCREW-HEX CAP-1/4-28 X 1
15	NPN	1	CABLE CLAMP PLATE
16	NPN	1	CABLE CLAMP HANDLE
17	NPN	2	NUT-LOCK-1/4-28
18	NPN	2	CABLE CLAMP
19	81008429	1	CONTACT PIN
20	82050000	1	PROXIMITY SENSOR
21	82066700	1	MOUNTING SCREW (NOT SHOWN)
22	AE-OPT-0069	1	HAND BRAKE "ON" WARNING (OPTIONAL)

BRAKES

DRUM BRAKE ASSEMBLY—REAR



BRAKES

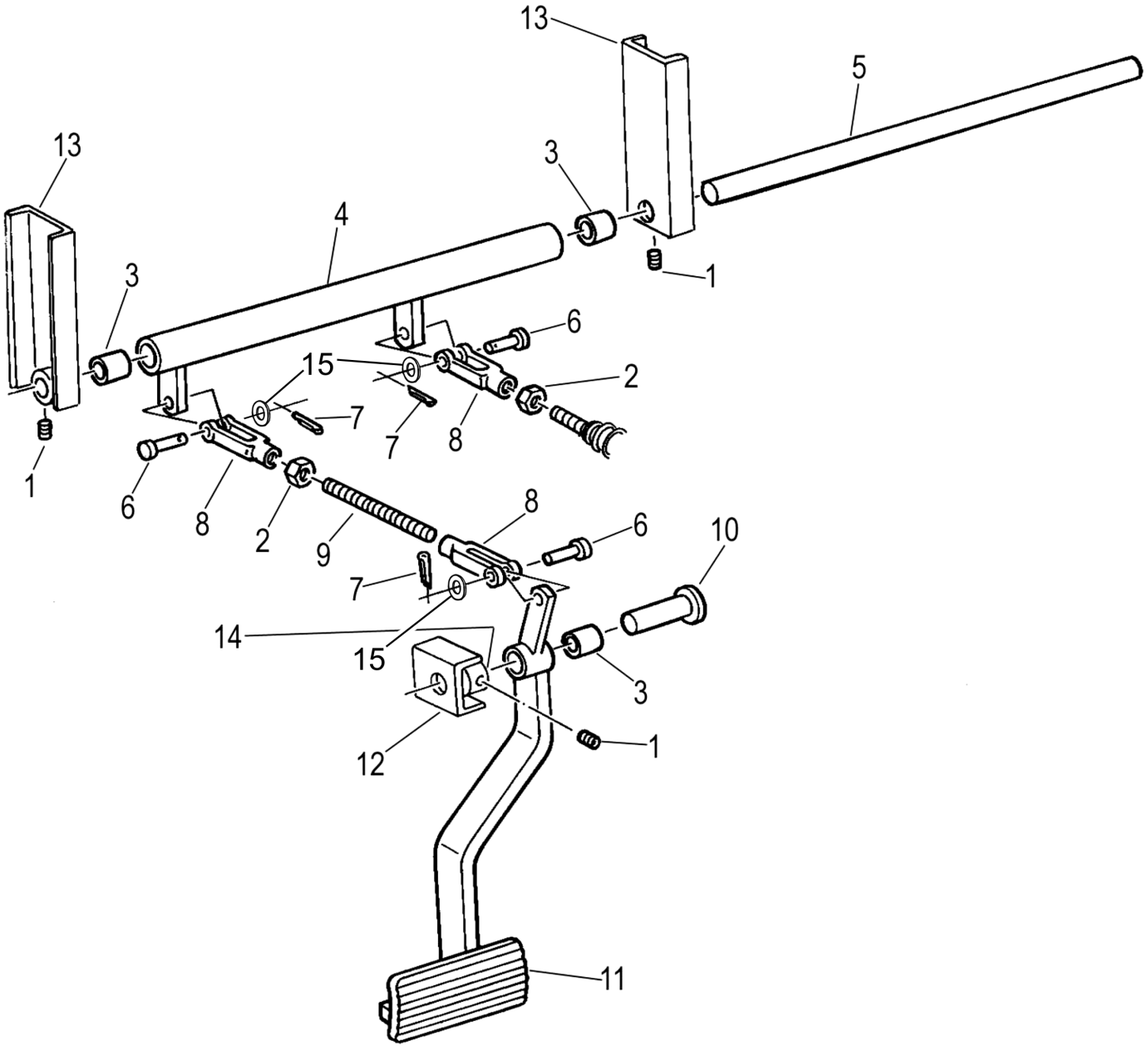
DRUM BRAKE ASSEMBLY—REAR

Item	Part Number	Qty	Description
	060WD101	1	BRAKE ASSEMBLY L/H
	060WD100	1	BRAKE ASSEMBLY R/H
1	4313905	1	BACKING PLATE L/H
1	4313904	1	BACKING PLATE R/H
2	FR357	1 SET	SHOE & LINING SET
4	2235585	1	CYLINDER ASSEMBLY L/H
4	2235586	1	CYLINDER ASSEMBLY R/H
5	315834	2	WHEEL CYLINDERS CONNECTING LINK
6	*SEE KIT BELOW	1	COVER
7	*SEE KIT BELOW	1	SPRING-UPPER
8	*SEE KIT BELOW	1	SPRING-LOWER
9	*SEE KIT BELOW	2	SPRING-HOLD DOWN
10	*SEE KIT BELOW	1	PIN
11	*SEE KIT BELOW	1	SPRING TENSION
12	*SEE KIT BELOW	1	BRAKE ADJUSTING LINK
13	*SEE KIT BELOW	1	CABLE GUIDE
14	*SEE KIT BELOW	1	CABLE ASSEMBLY
15	*SEE KIT BELOW	2	SPRING-HOLD DOWN
19	4383299	1	PARKING BRAKE CAM L/H
19	4383298	1	PARKING BRAKE CAM R/H
20	4383264	1	PARKING BRAKE LEVER (RIGHT)
20	4383265	1	PARKING BRAKE LEVER (LEFT)
21	4419698	1	BRAKE ANCHOR BOLT
24	*SEE KIT BELOW	1	BRAKE ADJUSTING SOCKET L/H
25	*SEE KIT BELOW	1	BRAKE ADJUSTING SCREW L/H
26	*SEE KIT BELOW	1	BRAKE ADJUSTING SOCKET
27	*SEE KIT BELOW	1	WASHER FLAT
28	3492670	1	WASHER
29	3492656	1	SPRING
30	4383600	1	SPACER
KIT	H2588	LEFT	BRAKE ADJUSTING KIT INCLUDES ITEMS 6,10-14,20,24-27
KIT	H2589	RIGHT	BRAKE ADJUSTING KIT INCLUDES ITEMS 6,10-14,20,24-27
KIT	H7146	LEFT OR RIGHT	BRAKE SPRING KIT INCLUDES ITEMS 7-9 & 15

**KIT PARTS NOT SOLD SEPERATELY

BRAKES

BRAKE ACTUATOR ASSEMBLY



BRAKES

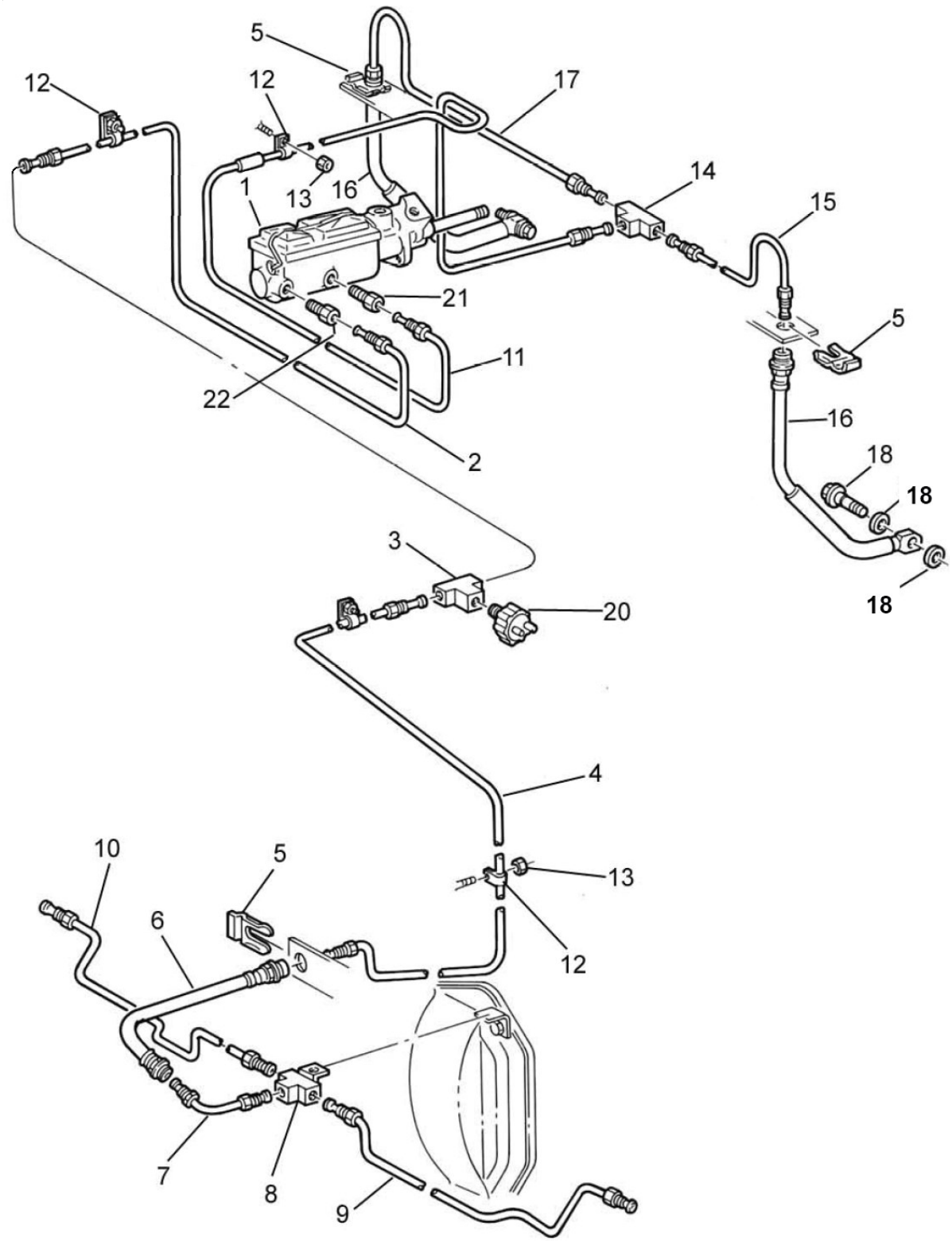
BRAKE ACTUATOR ASSEMBLY

Item	Part Number	Qty	Description
1	NPN	4	¼-20 SET SCREW
2	NPN	2	½-20 NUT
3	C-TT4-10188	3	THOMSON NYLINER BEARING
4	C-TT4-10186	1	BELL CRANK
5	C-TT4-10187	1	BELL CRANK PIVOT SHAFT
6	A-TT4-00193	3	CLEVIS PIN
7	NPN	3	COTTER PIN
8	A-TT4-10192	3	CLEVIS
9	NPN	1	½-20 X 12 ADJUSTING ROD
10	C-TT4-10182	1	BRAKE PEDAL PIVOT SHAFT
11	C-TT4-10181	1	BRAKE PEDAL
12	NPN	1	BRAKE PEDAL PIVOT
13	NPN	2	BELL CRANK STANDOFF
14	A-TT2-0057*	2	SHAFT COLLAR 3/4
15	NPN	3	CLEVIS PIN WASHER

* Welded to truck

BRAKES

BRAKE SYSTEM—HYDRAULIC



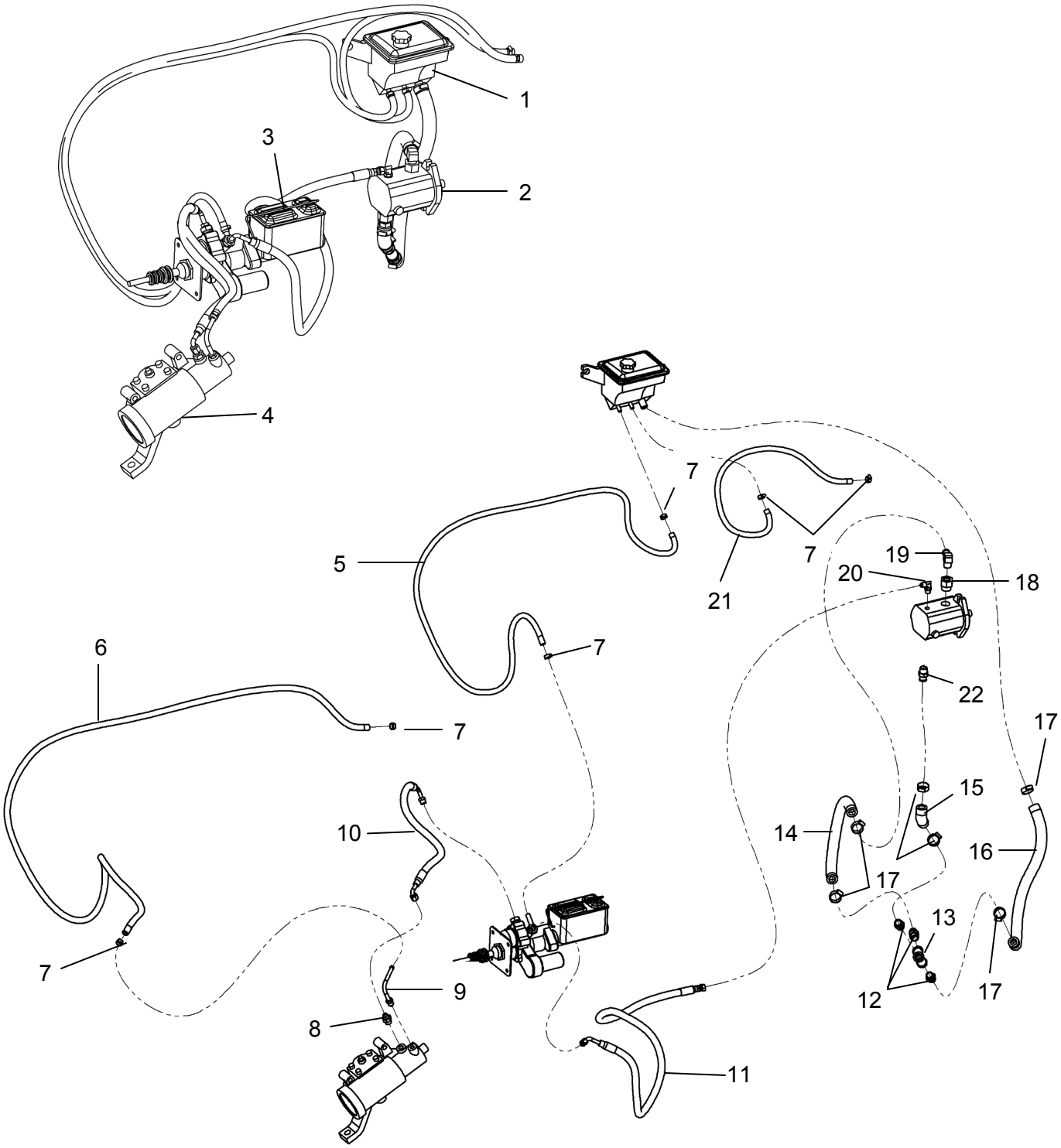
BRAKES

BRAKE SYSYEM—HYDRAULIC

Item	Part Number	Qty	Description
1	A-TT4-00161-1	1	MASTER CYLINDER
2	A-TT4-00171	1	BRAKE LINE REAR
3	A-TT4-00163	1	BRAKE LIGHT SWITCH TEE
4	A-TT4Y-00164	1	BRAKE LINE REAR 2nd HALF VERSION 1
4	A-TT4Y-00164-1	1	BRAKE LINE REAR 2nd HALF VERSION 2
5	A-TT4-00165	3	BRAKE HOSE CLAMP
6	A-TT4-00166	1	BRAKE HOSE REAR
7	A-TT4-00167	1	BRAKE LINE
8	A-TT4-00168	1	CROSS TEE
9	A-TT4-00169	1	BRAKE LINE REAR RT
10	A-TT4-00170	1	BRAKE LINE LEFT REAR LT
11	A-TT4-00162	1	BRAKE LINE MASTER CYLINDER
12	NPN	4	LINE CLAMP
13	NPN	4	NUT-10-32
14	A-TT4-00174	1	CROSS TEE
15	A-TT4-00175	1	BRAKE LINE FRONT RIGHT
16	A-TT4-00176-1	2	CALIPER BRAKE LINE
17	A-TT4-00177	1	BRAKE LINE FRONT LEFT
18	A-TT4-00178	2	BANJO BOLT & WASHER KIT
20	A-TT4-00173	1	BRAKE LIGHT SWITCH
21	A-TT5-00180	1	FITTING-MASTER CYLINDER ADAPTER
22	A-TT5-00181	1	FITTING-MASTER CYLINDER ADAPTER

HYDRAULIC ASSIST

HYDRAULIC ASSIST SYSTEM WITH PRINCE PUMP



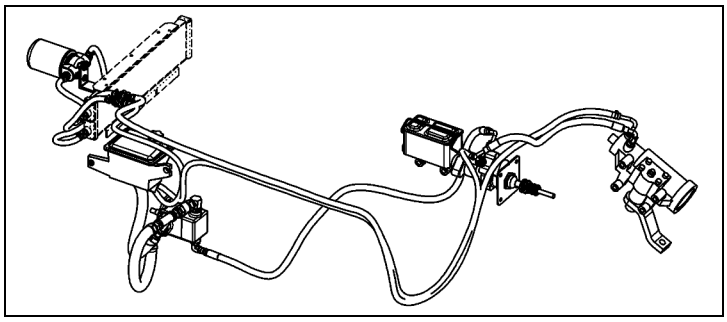
HYDRAULIC ASSIST

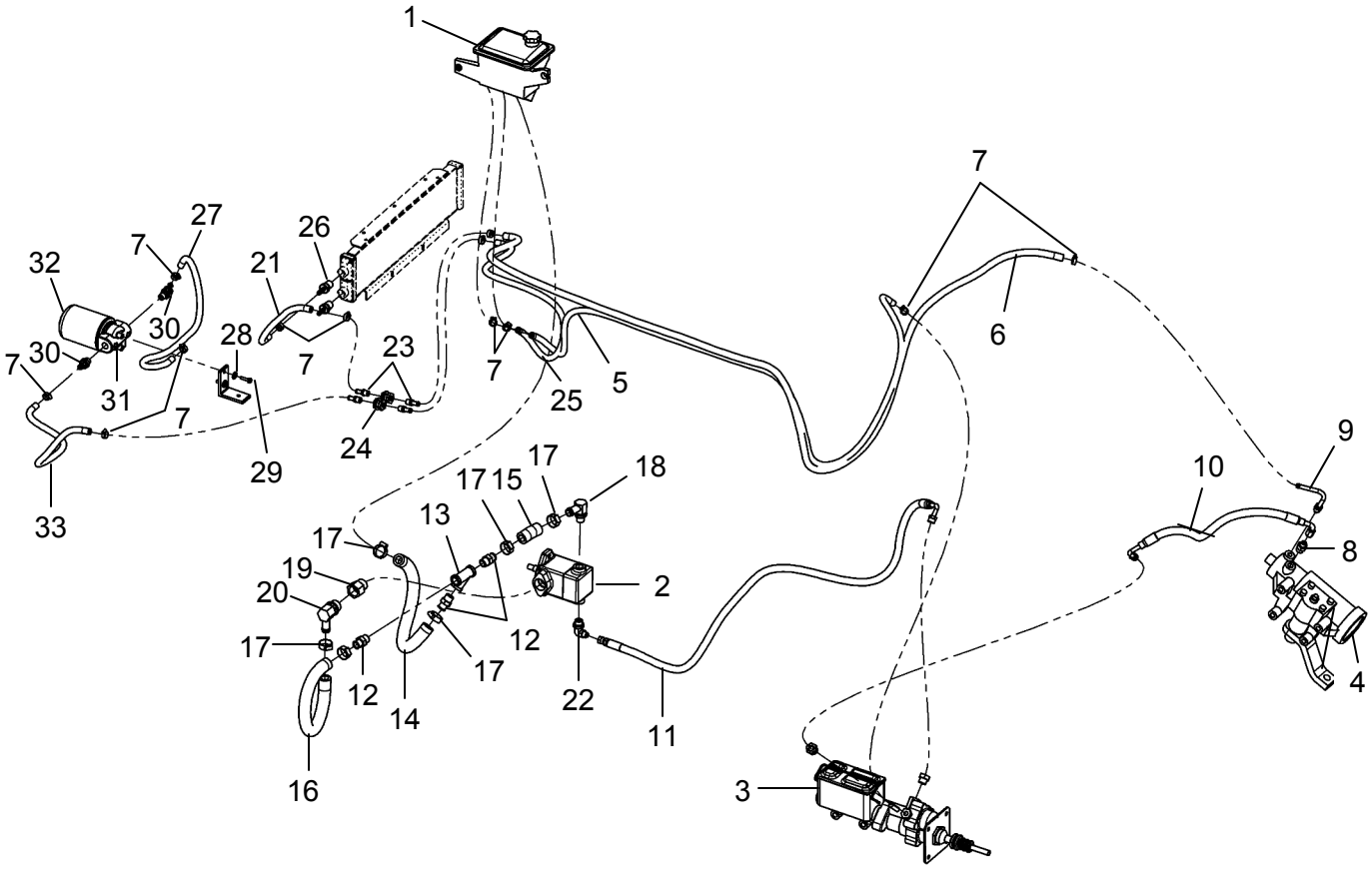
HYDRAULIC ASSIST SYSTEM WITH PRINCE PUMP

Item	Part Number	Qty	Description
1	F81Z3A697BB	1	RESERVOIR POWER STEERING FLUID (REPLACED BY TT00-09-002-AA)
2	SP20PB11L145H9L	1	PRINCE PUMP
3	A-TT4-00161-1	1	MASTER CYLINDER
4	A-TT4-00381	1	STEERING GEAR BOX
5	H10106	1	3/8 HYDRAULIC HOSE WK PSI 350 110"
6	H10106	1	3/8 HYDRAULIC HOSE WK PSI 350 126"
7	NPN	6	# 4 HOSE CLAMP
8	A-TT4-00213	1	METRIC PORT ADAPTER
9	A-TT4-00204	1	RETURN LINE EXTENDER
10	06U-666-23-06U-B66	1	HYDRAULIC HOSE
11	06U-B67-56-06U-606	1	HYDRAULIC HOSE
12	A-TT4-00606-1A	3	FITTING MALE COUPLING
13	A-TT4-00606-1	1	Y FITTING BLACK IRON
14	12GMV MEGA VAC	1	3/4 SUCTION HOSE 24"
15	12GMV MEGA VAC	1	3/4 SUCTION HOSE 3"
16	12GMV MEGA VAC	1	3/4 SUCTION HOSE 21"
17	NPN	6	#12 HOSE CLAMPS
18	C3269X12X8	1	FEMALE PIPE ADAPTER
19	269HB-12-8	1	ELBOW 3/4 X 1/2
20	C5515X6	1	FITTING, ELBOW 3/8 X 3/8
21	H10106	1	3/8 HYDRAULIC HOSE WK PSI 350 48"
22	05TB-12-12	1	12 SAE ORB M, .75 HOSE BARB

HYDRAULIC ASSIST

HYDRAULIC ASSIST SYSTEM WITH METARIS PUMP





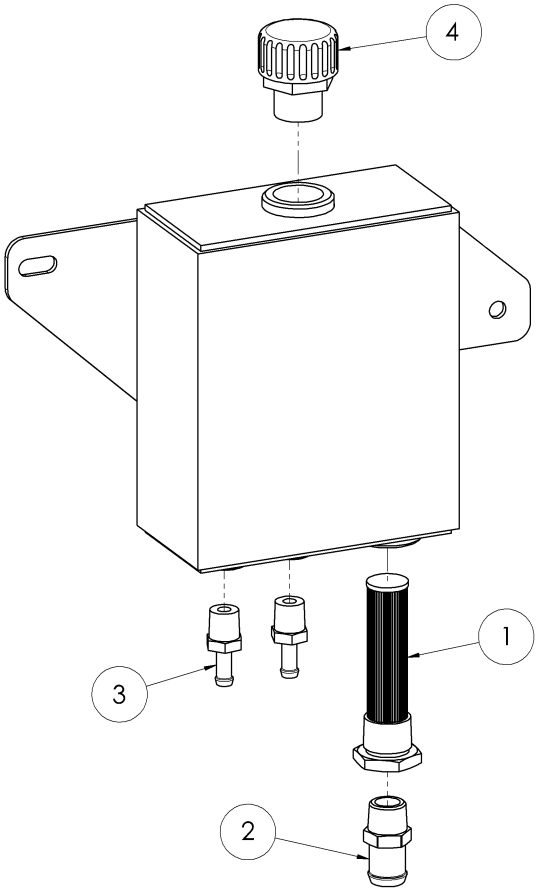
HYDRAULIC ASSIST

HYDRAULIC ASSIST SYSTEM WITH METARIS PUMP

Item	Part Number	Qty	Description
1	F81Z3A697BB	1	RESERVOIR POWER STEERING FLUID (REPLACED BY TT00-09-002-AA)
2	V10F1T3T11C3F20L	1	METARIS PUMP
3	A-TT4-00161-1	1	MASTER CYLINDER
4	A-TT4-00381	1	STEERING GEAR BOX
5	H10106	1	3/8 HYDRAULIC HOSE WK PSI 350 100"
6	H10106	1	3/8 HYDRAULIC HOSE WK PSI 350 114"
7	NPN	9	# 4 HOSE CLAMP
8	A-TT4-00213	1	METRIC PORT ADAPTER
9	A-TT4-00204	1	RETURN LINE EXTENDER
10	06U-666-23-06U-B67	1	HYDRAULIC HOSE
11	06U-B67-56-06U-606	1	HYDRAULIC HOSE
12	A-TT4-00606-1A	3	FITTING MALE COUPLING
13	A-TT4-00606-1	1	Y FITTING BLACK IRON
14	12GMV MEGA VAC	1	3/4 SUCTION HOSE 20"
15	12GMV MEGA VAC	1	3/4 SUCTION HOSE 3"
16	12GMV MEGA VAC	1	3/4 SUCTION HOSE 21.5"
17	NPN	6	#12 HOSE CLAMPS
18	4601-12-08	1	1/2 M SAE 3/4 SUCTION BARB 90 DEG FITTING
19	7033X14X12	1	7/8 M SAE 3/4 F SAE FITTING
20	25TB-12-12	1	3/4 M SAE 3/4 SUCTION BARB 90 DEG FITTING
21	H10106	1	3/8 HYDRAULIC HOSE WK PSI 350 20"
22	C5515X6X8	1	1/2 M SAE M JIC 37 FITTING
23	05706B-104	4	FITTING 3/8 X 1/4
24	A-TT4-00280	2	BULKHEAD FITTING
25	H10106	1	3/8 HYDRAULIC HOSE WK PSI 350 36"
26	10506B-108	2	FITTING, PUSH ON 06 TO 1/2M
27	H10106	1	3/8 HYDRAULIC HOSE WK PSI 350 33"
28	NPN	1	1/4 LOCK WASER
29	NPN	1	1/4-20 X 3/4 BOLT
30	4312-06-08	2	STRAIGHT BARB 1/2"
31	SAF-05-25-0	1	FILTER HEAD
32	SF-6520	1	FILTER ELEMENT
33	H10106	1	3/8 HYDRAULIC HOSE WK PSI 350 33"

Hydraulic assist

HYDRAULIC TANK SUBASSEMBLY (STYLE A - SUPERSEDED)

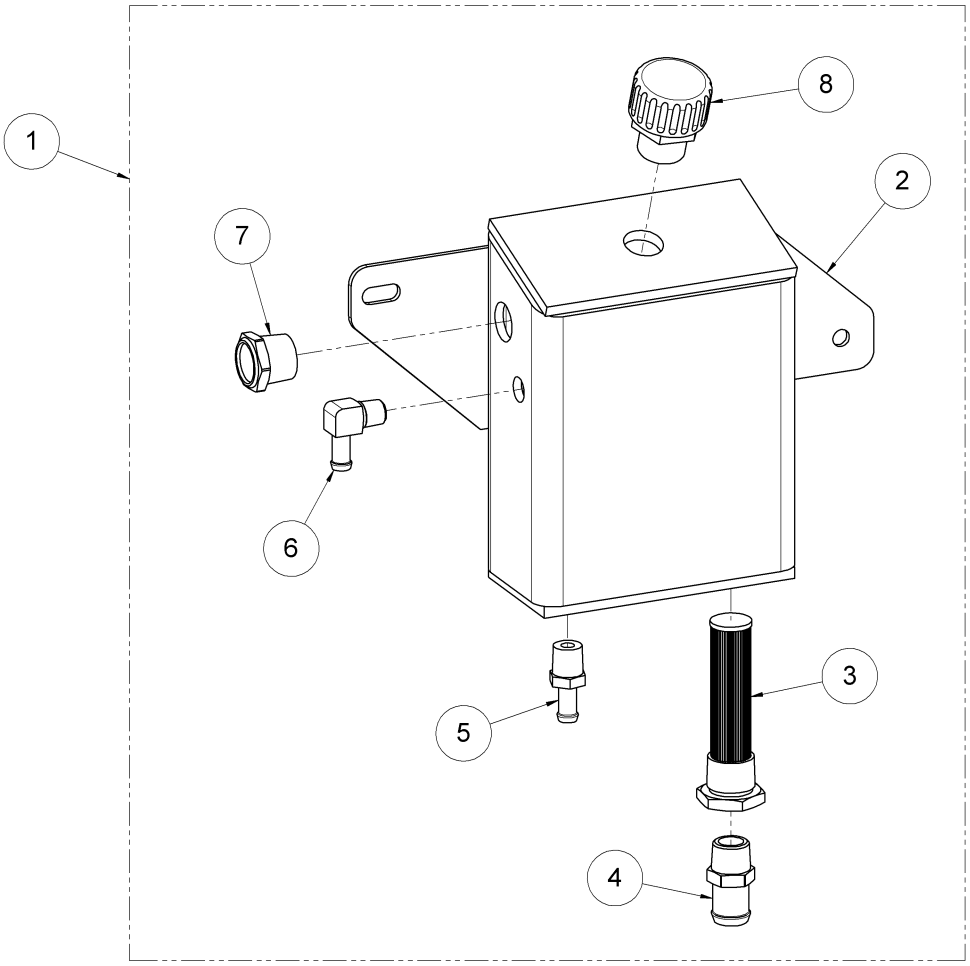


Item	Part Number	Qty	Description
1	TT00-09-003-CA	1	SUCTION STRAINER
2	A-TT4-00606-1A	1	HOSE BARB, 3/4 BARB X 1/2 NPT, BRASS
3	05706B-106	1	HOSE BARB, 3/8 BARB X 3/8 NPT, BRASS
4	A-ES12-0550	1	HYDRAULIC BREATHER CAP

*See Steering Fluid and Fill Procedure (Maintenance Section).

HYDRAULIC ASSIST

HYDRAULIC TANK SUBASSEMBLY SCHEMATIC (STYLE B)



Item	Part Number	Qty	Description
1	TT00-09-002-AA	1	TT POWER STEERING TANK SUBASSEMBLY (INCLUDES ITEMS 2-8)
2	TT00-09-001-SAC	1	POWER STEERING RESERVOIR
3	TT00-09-003-CA	1	TT SUCTION STRAINER
4	A-TT4-00606-1A	1	HOSE BARB, 3/4 BARB X 1/2 NPT, BRASS
5	05706B-106	1	HOSE BARB, 3/8 BARB X 3/8 NPT, BRASS
6	05706B-C04	1	ELBOW, HOSE BARB, 3/8 BARB X 3/8 NPT, BRASS
7	NVSP-09-015-CA	1	SIGHT GAGE, 1/2 NPT
8	TT00-09-004-CA	1	HYDRAULIC BREATHER CAP, 1/2 NPT

*See Steering Fluid and Fill Procedure (Maintenance Section).

Hydraulic assist

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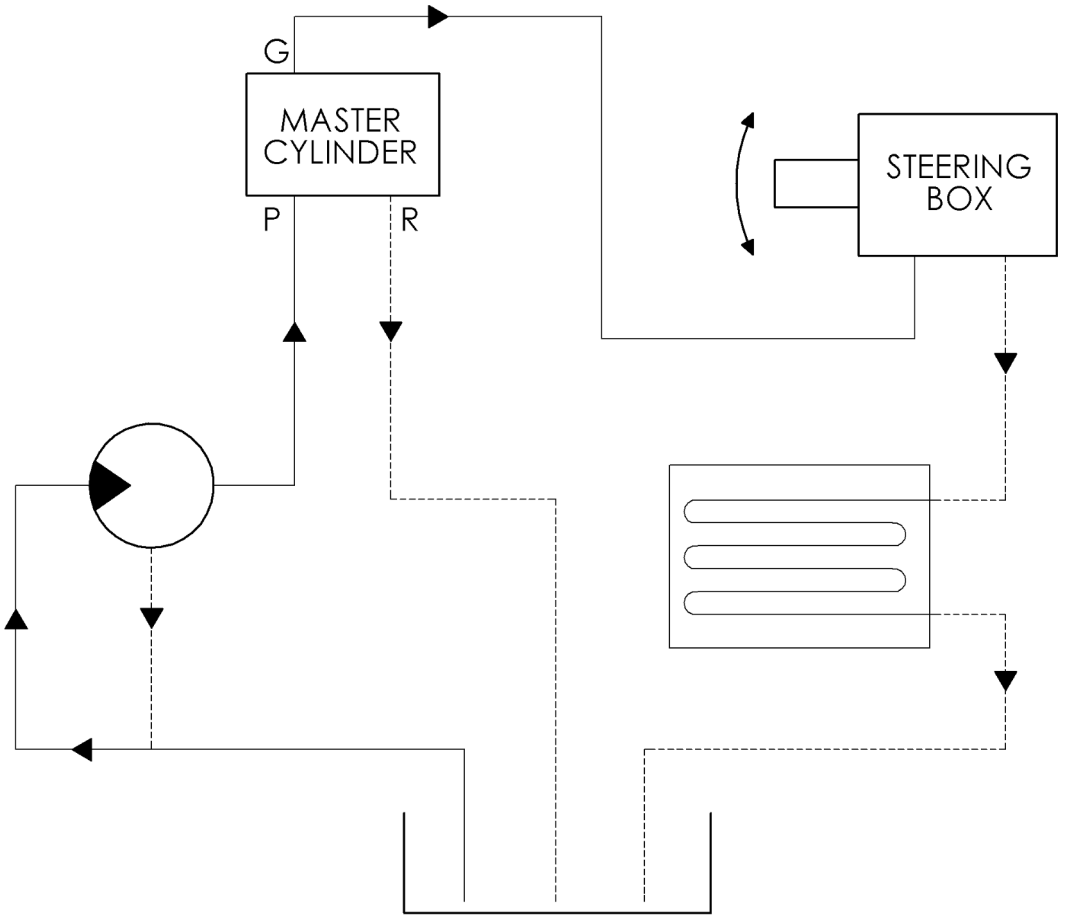
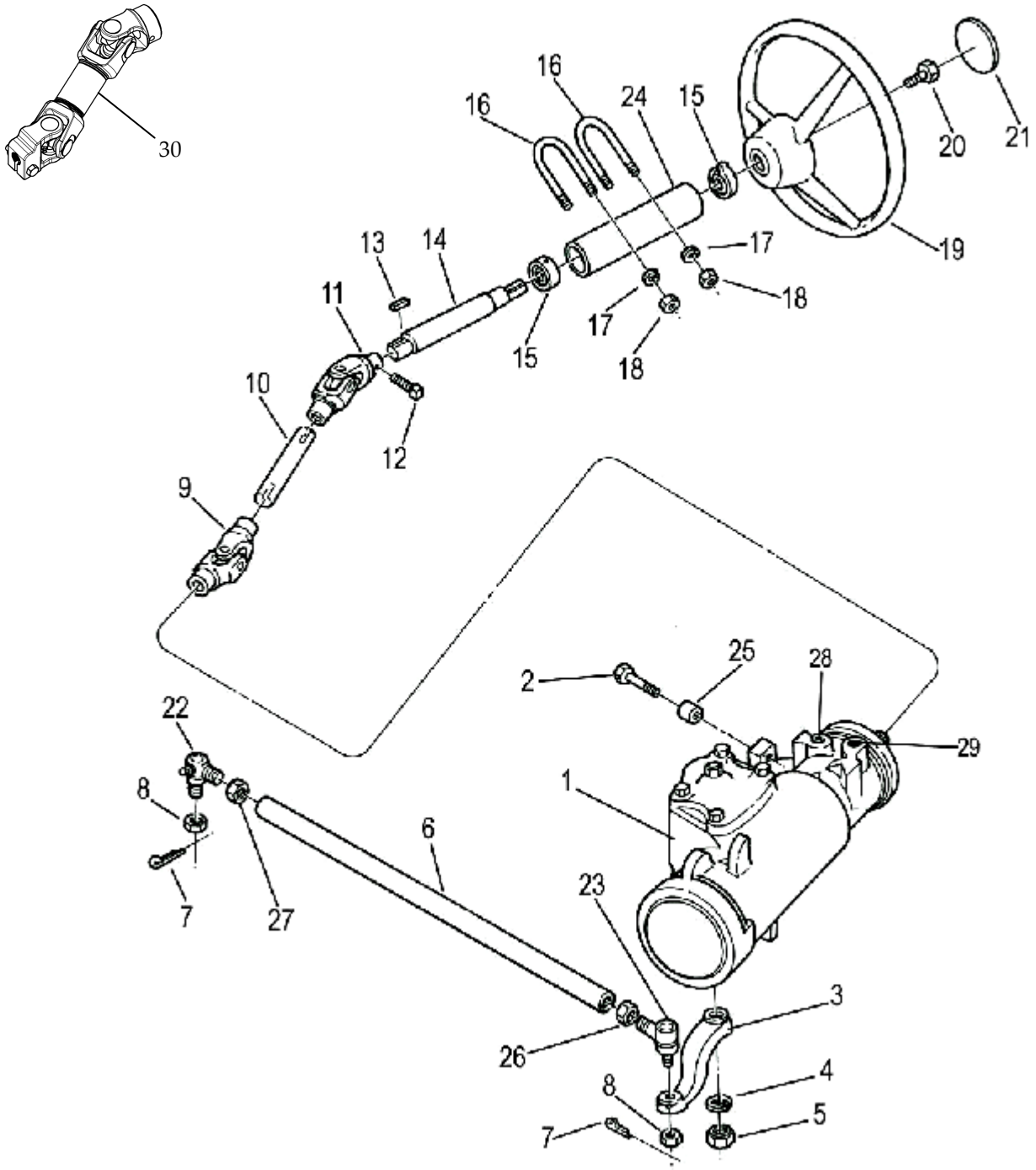
HYDRAULIC ASSIST

HYDRAULIC ASSIST SYSTEM SCHEMATIC



Steering System

STEERING SYSTEM BREAKDOWN



Steering System

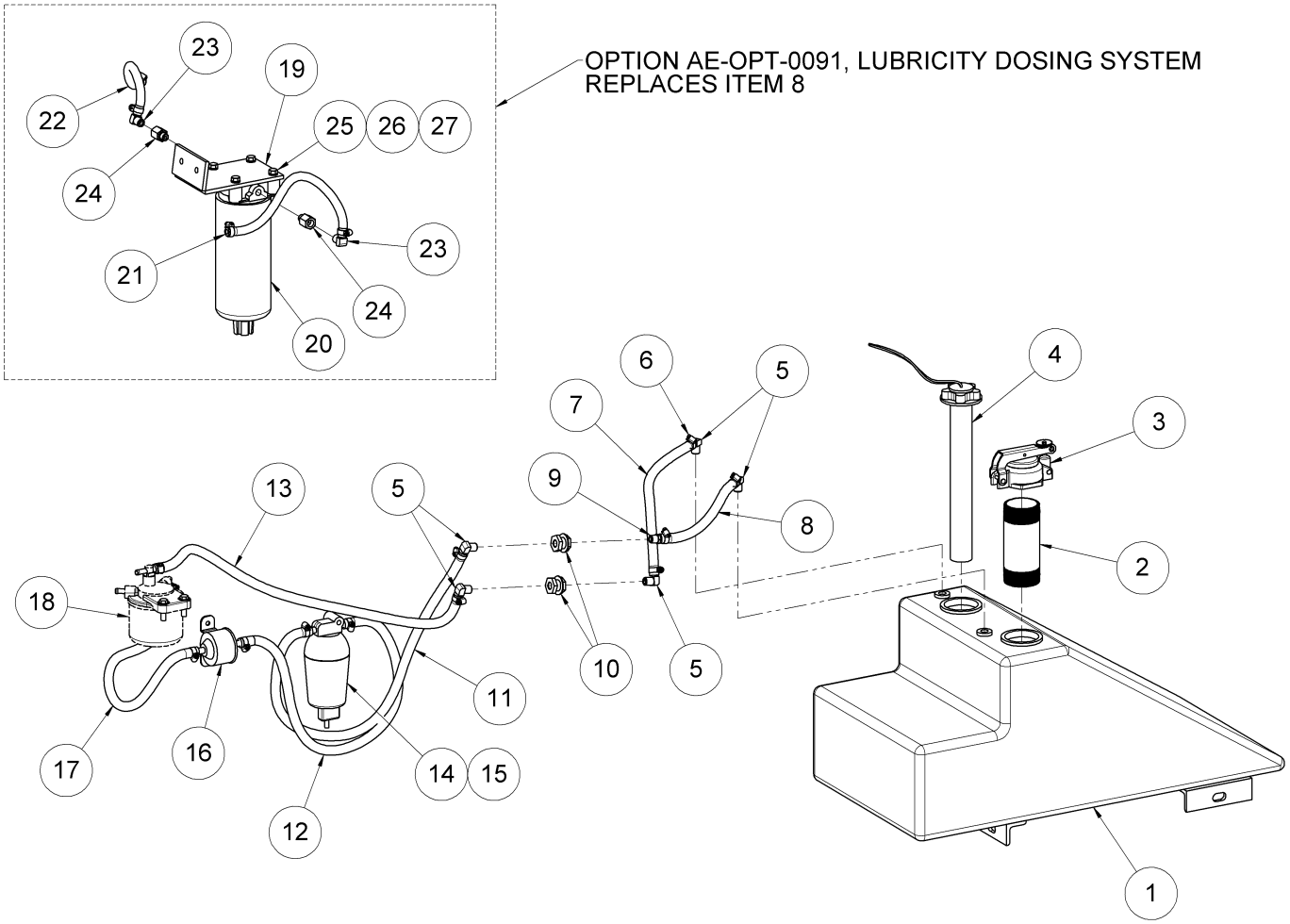
STEERING SYSTEM BREAKDOWN

Item	Part Number	Qty	Description
1	A-TT4-00381	1	STEERING BOX
2	NPN	4	SCREW-HEX CAP-7/16-14 X 2 GR8
3	A-TT4-00382	1	PITTMAN ARM
4	NPN	1	WASHER-LOCK-3/4
5	NPN	1	NUT-LOW-3/4-10
6	A-TT4-00386	1	DRAG LINK
7	NPN*	2	COTTER PIN 1/8 X 1 ½
8	NPN*	2	NUT-TIE ROD ½-20
9	A-TT4-00389	1	UNIVERSAL COUPLER
10	A-TT4-00390	1	SHAFT COUPLING
11	A-TT4-00391	1	UNIVERSAL JOINT
12	NPN	2	LOCKING BOLT-DOG POINT 3/8-16
13	A-TT4-00393	1	GIBB KEY
14	A-TT4-00394-1	1	STEERING SHAFT
15	A-TT4-00395	2	BEARING
16	A-TT4-00396	2	2 1/8 U-BOLT 3/8HD
17	NPN**	4	WASHER-FLAT-5/16
18	NPN**	4	NUT-LOCK-5/16-18
19	A-TT4-00399-1	1	STEERING WHEEL
20	N/A	1	SCREW-HEX CAP-3/8-24 X 1
21	A-TT4-00401-1	1	COVER PLATE
22	A-TT4-00402	1	TIE ROD END L/H
23	A-TT4-00403	1	TIE ROD END R/H
24	A-TT4-00404	1	STEERING TUBE
25	A-TT4-00405	4	SPACERS
26	A-TT4-00406	1	3/4-16 NUT-JAM-L/H
27	A-TT4-00407	1	3/4-16 NUT-JAM-R/H
28	A-TT4-00212	1	HIGH PRESSURE EXTENDER
29	A-TT4-00204	1	RETURN LINE EXTENDER
30	TT08-12-001-SA	1	STEERING SHAFT ASSEMBLY (REPLACES ITEMS 9-12)

*ITEMS 7 & 8 NOT SOLD SEPERATELY. THESE PARTS ARE INCLUDED IN ITEMS 22 & 23

**ITEM 17 & 18 ARE INCLUDED IN ITEM 16

Fuel System


OPTION AE-OPT-0091, LUBRICITY DOSING SYSTEM
REPLACES ITEM 8
23
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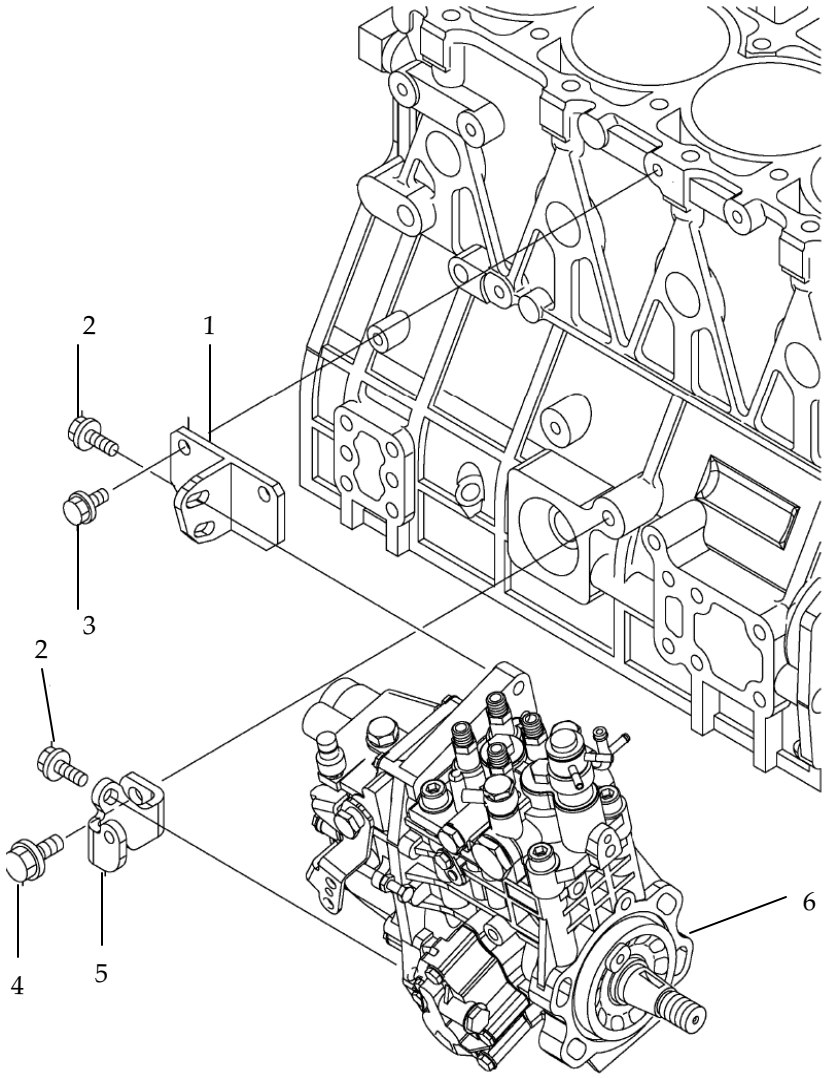
FUEL SYSTEM

Item	Part Number	Qty	Description
1	A-TT4-00273-1	1	FUEL TANK
2	A-TT4-00272	1	PIPE NIPPLE, 2 NPT X 5.5 LONG
3	A-TT4-00271-1	1	FUEL CAP, DIESEL
4	A-TT4-00276-1	1	FUEL SENDING UNIT
5	05705B-C04	5	ELBOW, 1/4 NPT X 5/16 BARB, BRASS
6	NPN	12	SAE HOSE CLAMP
7	H05705	1	5/16 FUEL HOSE, SAE30R7, 14" LONG
8	H05705	1	5/16 FUEL HOSE, SAE30R7, 17" LONG
9	05705B-104	1	HOSE BARB, 1/4 NPT X 5/16 BARB, BRASS
10	A-TT4-00280	2	BULKHEAD FITTING, 1/4 NPT
11	H05705	1	5/16 FUEL HOSE, SAE30R7, 21.5" LONG
12	H05705	1	5/16 FUEL HOSE, SAE30R7, 15" LONG
13	H05705	1	5/16 FUEL HOSE, SAE30R7, 44" LONG
14	129424-55700	1	FUEL-WATER SEPARATOR ASSEMBLY
15	129242-55730	1	REPLACEMENT ELEMENT
16	119225-52102	1	FUEL TRANSFER PUMP
17	H05705	1	5/16 FUEL HOSE, SAE30R7, 17" LONG
18	NPN	-	ON-ENGINE FUEL CONNECTION POINT
19	NPN	1	LUBRICITY FILTER BRACKET
20	FS20000	1	LUBRICITY FILTER ELEMENT
21	H05705	1	5/16 FUEL HOSE, SAE30R7
22	H05705	1	5/16 FUEL HOSE, SAE30R7
23	05705B-C04	5	ELBOW, 1/4 NPT X 5/16 BARB, BRASS
24	222P-4-M112	2	BRASS FITTING, 1/4" NPT X M12X1.5
25	NPN	4	M8 X 1.25 X 30 BOLT
26	NPN	4	5/16 FLAT WASHER
27	NPN	4	8MM SPLIT LOCK WASHER

FUEL SYSTEM

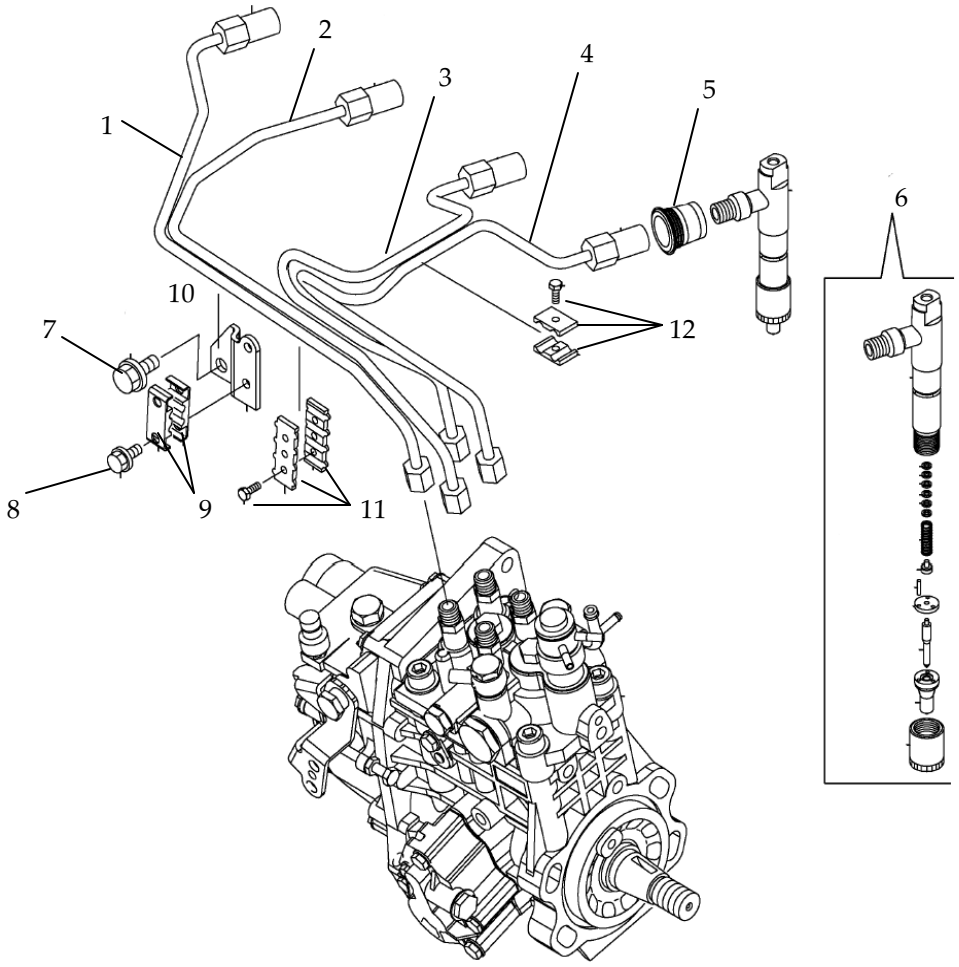
FUEL INJECTION PUMP—YANMAR TIER II DIESEL



Item	Part Number	Qty	Description
1	129907-01950	1	MOUNTING BRACKET
2	26106-080222	3	BOLT, M8 X 22 PLATED
3	26106-080162	2	BOLT, M8 X 16 PLATED
4	26106-100202	1	BOLT, M10 X 20 PLATED
5	129907-01960	1	MOUNTING BRACKET
6	729907-51320	1	FUEL INJECTION PUMP

FUEL SYSTEM

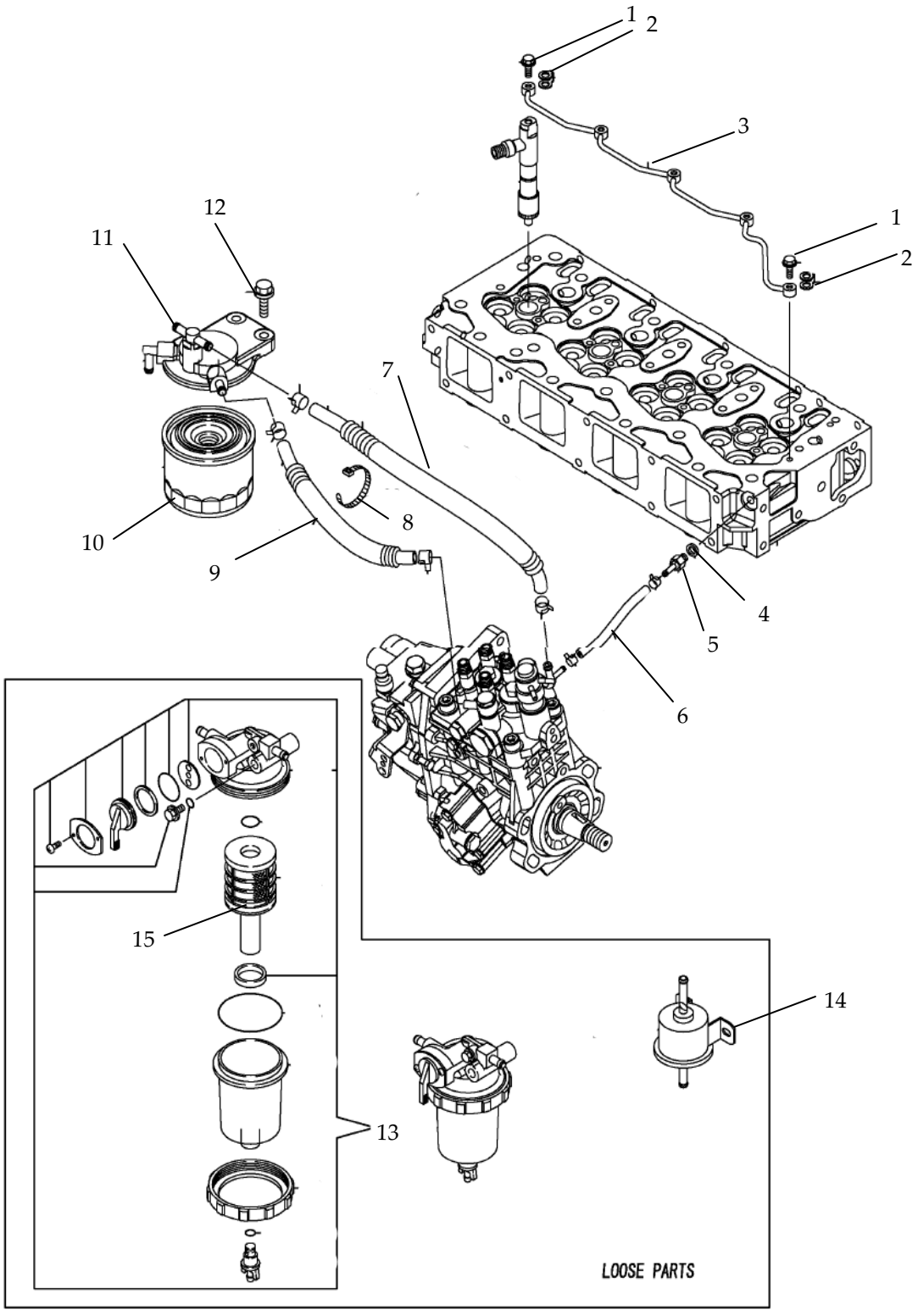
FUEL INJECTION LINES AND NOZZLE—YANMAR TIER II DIESEL



Item	Part Number	Qty	Description
1	129907-59810	1	PIPE ASSEMBLY FUEL INJECTION
2	129907-59820	1	PIPE ASSEMBLY FUEL INJECTION
3	122907-59830	1	PIPE ASSEMBLY FUEL INJECTION
4	129907-59840	1	PIPE ASSEMBLY FUEL INJECTION
5	123907-11601	4	PIPE SEAL
6	129937-53000	4	FUEL INJECTOR
7	26106-080182	1	BOLT, M8 X 18 PLATED
8	26106-060162	1	BOLT, M6 X 16 PLATED
9	122780-59100	2	RETAINER
10	129907-59710	1	BRACKET
11	129550-59120	1	RETAINER
12	119305-59120	1	RETAINER

FUEL SYSTEM

ENGINE FUEL LINE —YANMAR TIER II



FUEL SYSTEM

ENGINE FUEL LINE—YANMAR TIER II

Item	Part Number	Qty	Description
1	123907-59540	5	JOINT BOLT, M6
2	123907-59550	5	PACKING, FUEL RETURN
3	129907-59140	1	PIPE ASSEMBLY F.O. RETURN
4	22190-080002	1	SEAL WASHER
5	123907-59560	1	HOSE JOINT
6	129486-59551	1	PIPE ASSY FUEL RETURN WITH CLAMPS
7	129457-59010	1	PIPE ASSY FUEL WITH CLAMPS
8	121750-59890	1	CLAMP #40
9	129981-59010	1	PIPE ASSY FUEL WITH CLAMPS
10	119802-55801	1	FUEL FILTER ELEMENT
11	129004-55610	1	BRACKET FUEL FILTER
12	26106-080302	2	BOLT, M8 X 30 PLATED
13	129242-55700	1	FUEL WATER SEPERATOR COMPLETE ASSY
14	119225-52102	1	PUMP ASSEMBLY, FUEL FEED
15	129242-55730	1	FUEL WATER SEPERATOR ELEMENT

Note: The fuel system needs to be primed under certain conditions.

*Before starting the engine for the first time

*After running out of fuel and fuel has been added to the fuel tank

*After fuel system maintenance such as changing the fuel filter and draining the fuel/water separator, or replacing a fuel system component

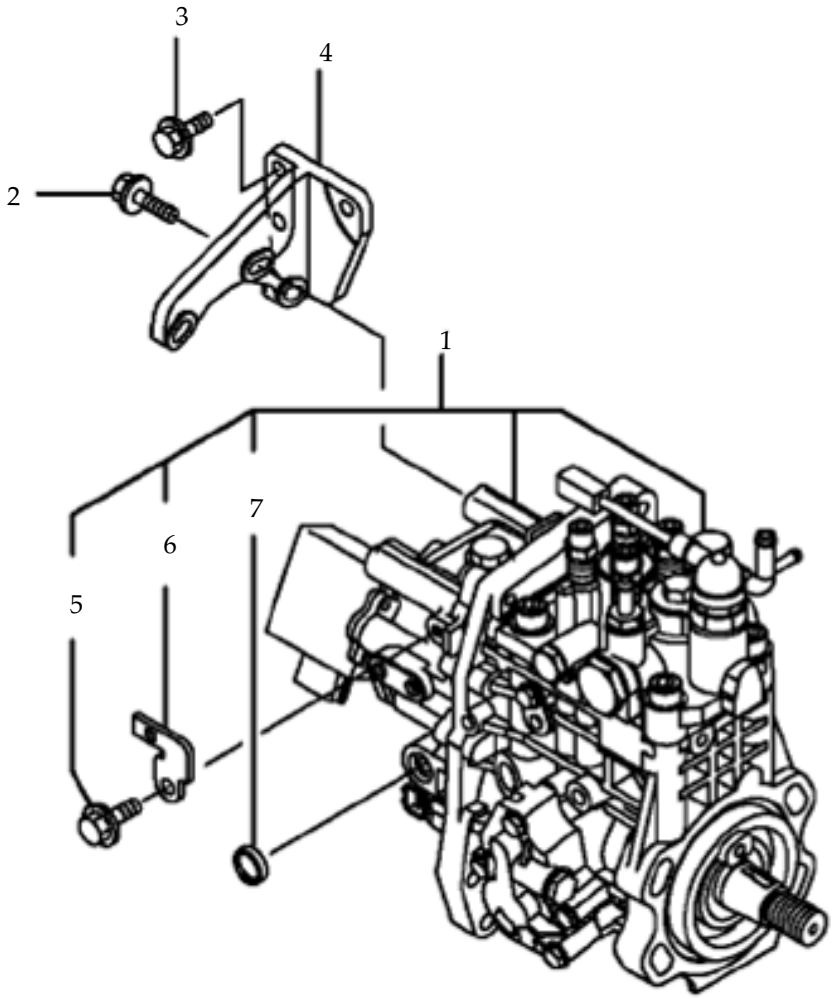
To prime the fuel system:

1.Turn the key to the ON position for 10 to 15 seconds. This will allow the electric fuel pump to prime the fuel system.

2.NEVER use the starter motor to crank the engine in order to prime the fuel system. This may cause the starter motor to overheat and damage the coils, pinion and / or ring gear.

FUEL SYSTEM

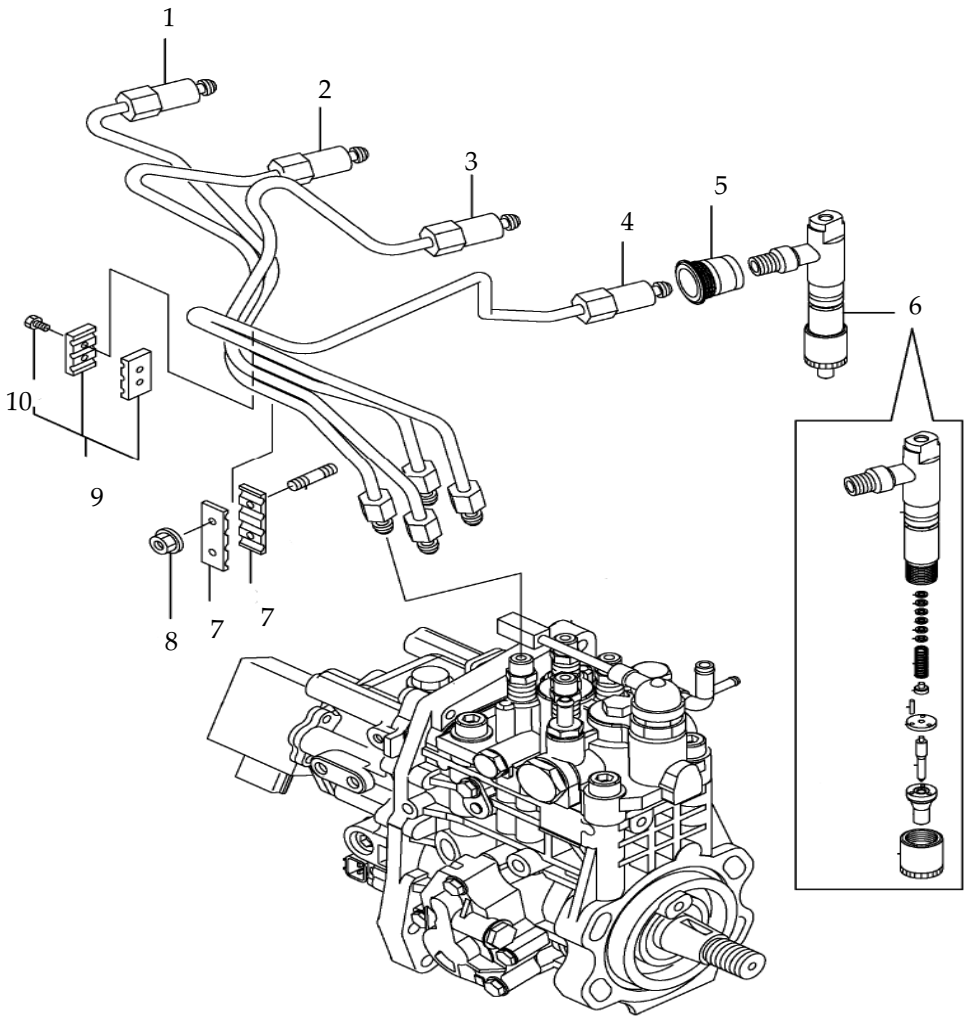
FUEL INJECTION PUMP—YANMAR TIER III DIESEL



Item	Part Number	Qty	Description
1	729939-51390	1	FUEL INJECTION PUMP
2	26106-080302	3	BOLT, M8 X 30 PLATED
3	26106-080202	3	BOLT, M8 X 20 PLATED
4	129927-51250	1	RETAINER
5	26106-060122	1	BOLT, M6 X 12 PLATED
6	129927-58170	1	LEVER
7	27241-160000	1	PLUG 16

FUEL SYSTEM

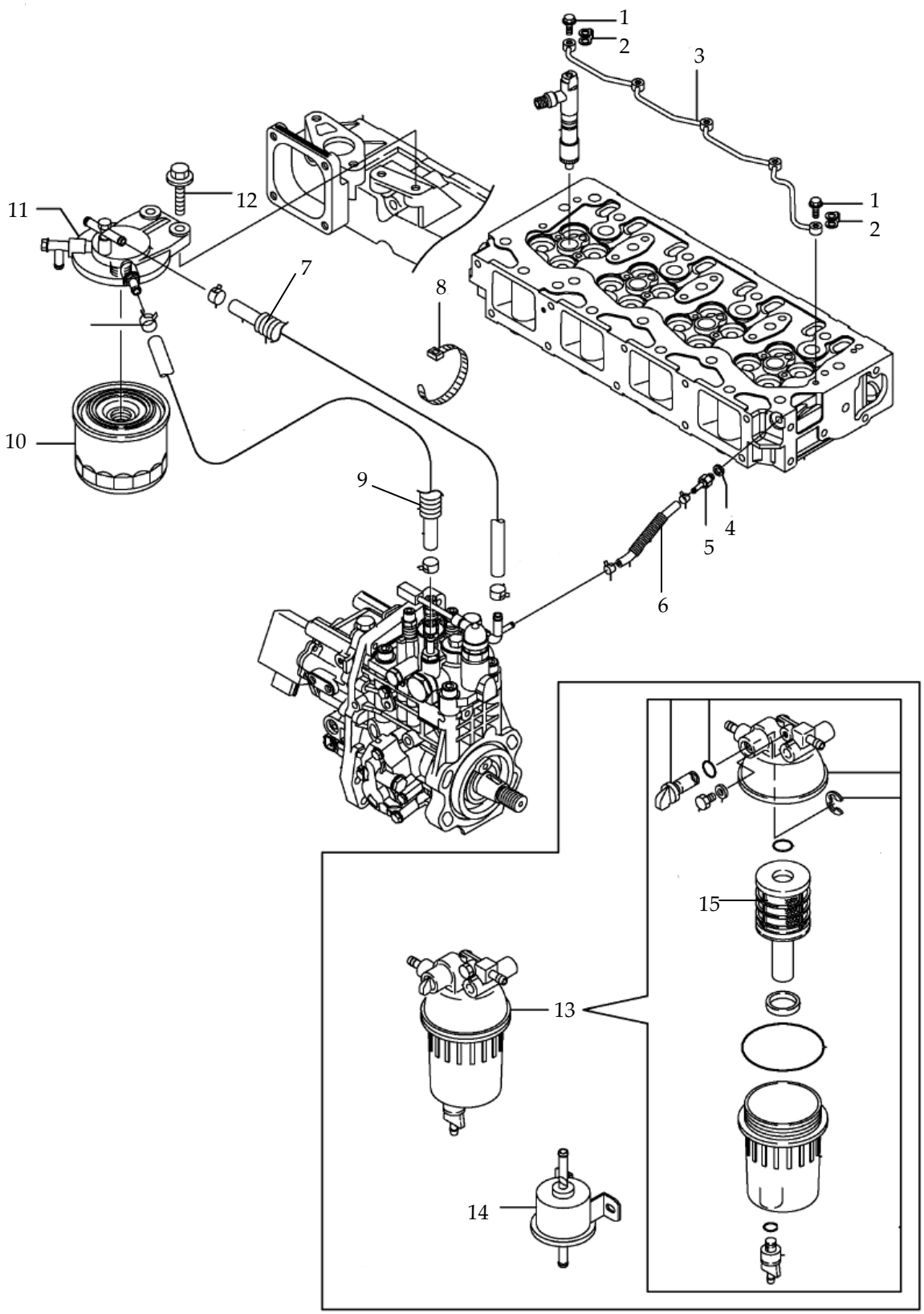
FUEL INJECTION LINES AND NOZZLE—YANMAR TIER III DIESEL



Item	Part Number	Qty	Description
1	129927-59810	1	PIPE ASSEMBLY FUEL INJECTION
2	129927-59820	1	PIPE ASSEMBLY FUEL INJECTION
3	122927-59830	1	PIPE ASSEMBLY FUEL INJECTION
4	129927-59840	1	PIPE ASSEMBLY FUEL INJECTION
5	123907-11601	4	PIPE SEAL
6	729927-53100	4	FUEL INJECTOR
7	123472-59120	2	BRACKET
8	26366-060002	2	NUT M6
9	129150-59120	1	RETAINER
10	129150-59131	2	BOLT, M4 X 14 HEX SCKT

FUEL SYSTEM

ENGINE FUEL LINE —YANMAR TIER III DIESEL



FUEL SYSTEM

ENGINE FUEL LINE—YANMAR TIER III DIESEL

Item	Part Number	Qty	Description
1	123907-59540	5	JOINT BOLT, M6
2	123907-59550	5	PACKING, FUEL RETURN
3	129907-59140	1	PIPE ASSEMBLY F.O. RETURN
4	22190-080002	1	SEAL WASHER
5	123907-59560	1	HOSE JOINT
6	129486-59550	1	PIPE ASSY FUEL RETURN WITH CLAMPS
7	129457-59010	1	PIPE ASSY FUEL WITH CLAMPS
8	121750-59890	1	CLAMP #40
9	129961-59310	1	PIPE ASSY FUEL WITH CLAMPS
10	119802-55801	1	FUEL FILTER ELEMENT
11	129004-55612	1	BRACKET FUEL FILTER
12	26106-080302	2	BOLT, M8 X 30 PLATED
13	129242-55700	1	FUEL WATER SEPERATOR COMPLETE ASSY
14	119225-52102	1	PUMP ASSEMBLY, FUEL FEED
15	129242-55730	1	FUEL WATER SEPERATOR ELEMENT

Note: The fuel system needs to be primed under certain conditions.

*Before starting the engine for the first time

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*After fuel system maintenance such as changing the fuel filter and draining the fuel/water separator, or replacing a fuel system component

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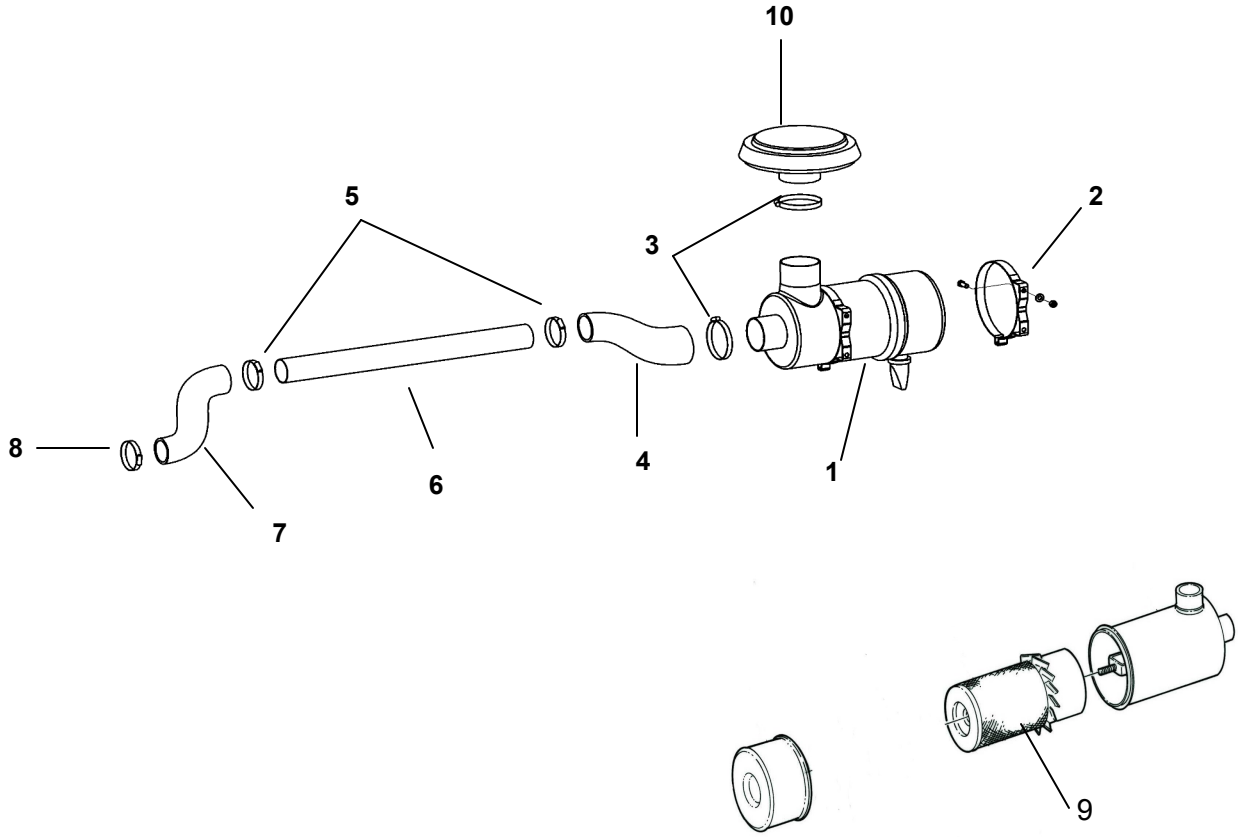
Air Cleaner

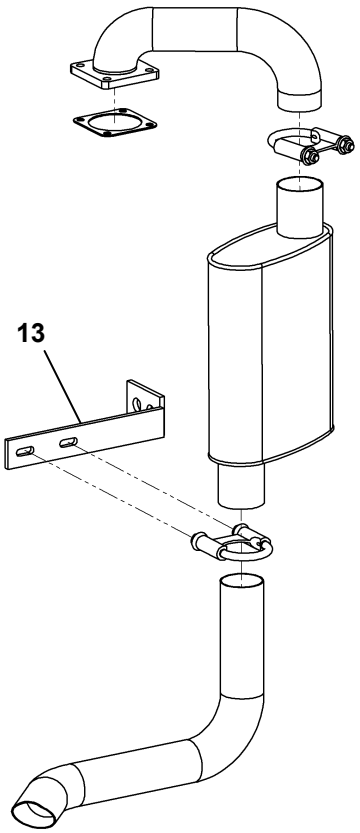
AIR CLEANER ASSEMBLY



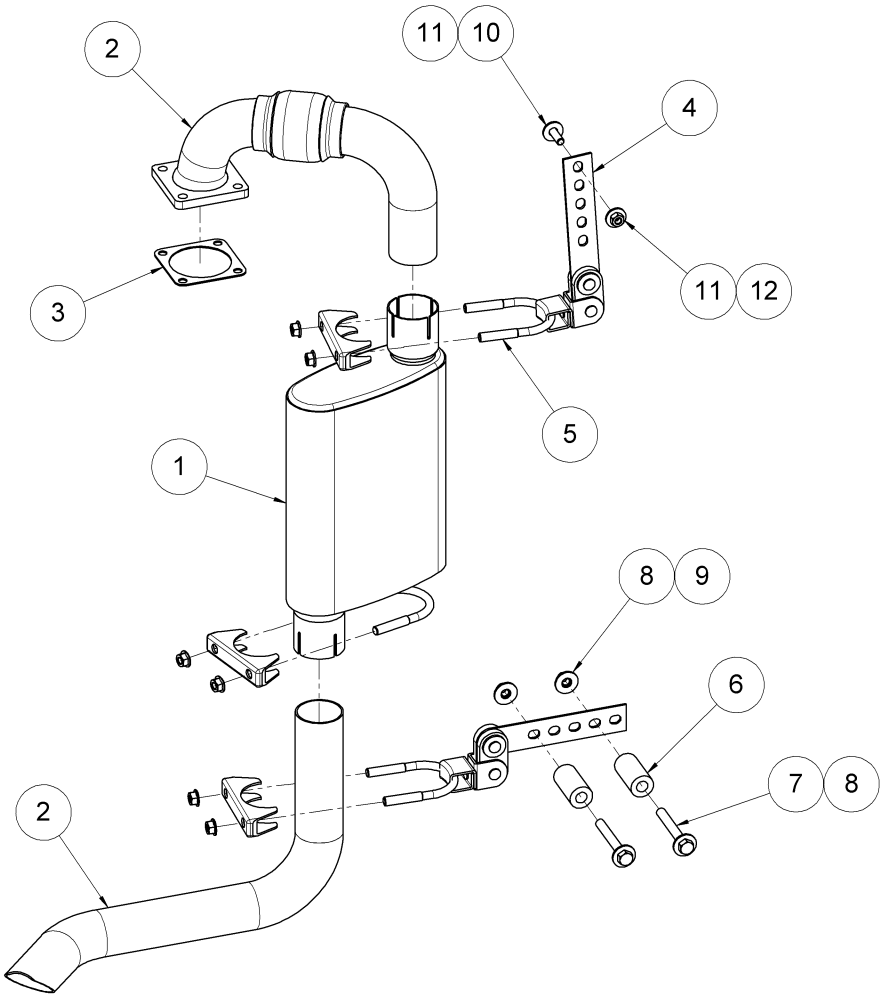
Item	Part Number	Qty	Description
1	A-TT4-00091-2	1	AIR CLEANER
2	A-TT4-00092-1	2	AIR CLEANER BRACKET
3	NPN	2	#60 HOSE CLAMP
4	A-TT4-00099	1	INTAKE TUBE REDUCER
5	NPN	2	#40 HOSE CLAMP
6	NPN	1	AIR CLEANER TUBE 2 1/2 OD X 26.5
7	A-TT4-00093	1	INTAKE TUBE
8	NPN	1	#36 HOSE CLAMP
9	P601437	1	AIR CLEANER ELEMENT

EXHAUST & INTAKE SYSTEM

EXHAUST SYSTEM



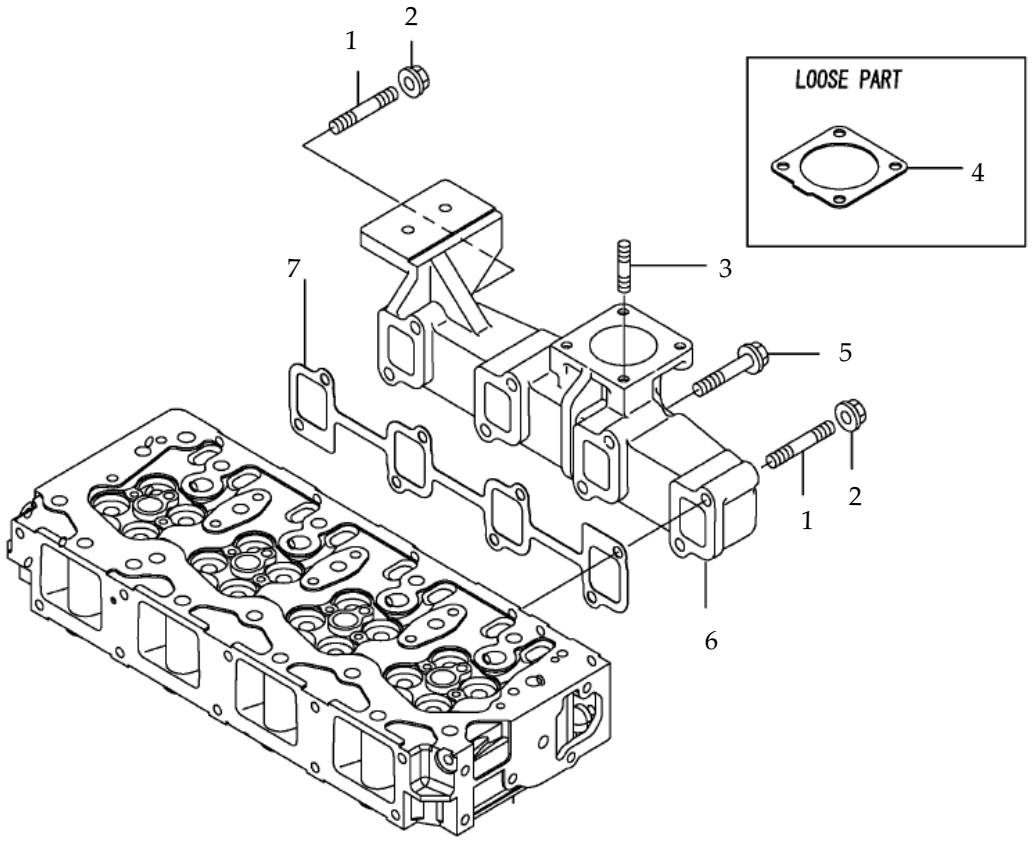
Note: Item 13 used on tractors manufactured before June 2013.



Item	Part Number	Qty.	Description
1	A-TT4-00258-2	1	MUFFLER
2	TT08-57-001-KA	1	2 PIECE EXHAUST PIPE ASSEMBLY
3	129930-13200	1	EXHAUST GASKET
4	A-TT4-00260	2	EXHAUST HANGAR
5	A-TT4-00254	3	2 IN HEAVY DUTY EXHAUST CLAMP
6	TT08-57-002-SA	2	SPACER, 3/8 ID X 2 LG
7	NPN	2	HCS, 3/8-16 UNC X 3.0, GR 8
8	NPN	4	FLAT WASHER, 3/8
9	NPN	2	HEX NUT, 3/8-16 UNC
10	NPN	1	HCS, 5/16-18 UNC X 1.0, GR 8
11	NPN	2	FLAT WASHER, 5/16
12	NPN	1	HEX NUT, 5/16-18 UNC
13	A-TT4-00255	1	EXHAUST BRACKET YANMAR TT4-8

EXHAUST & INTAKE SYSTEM

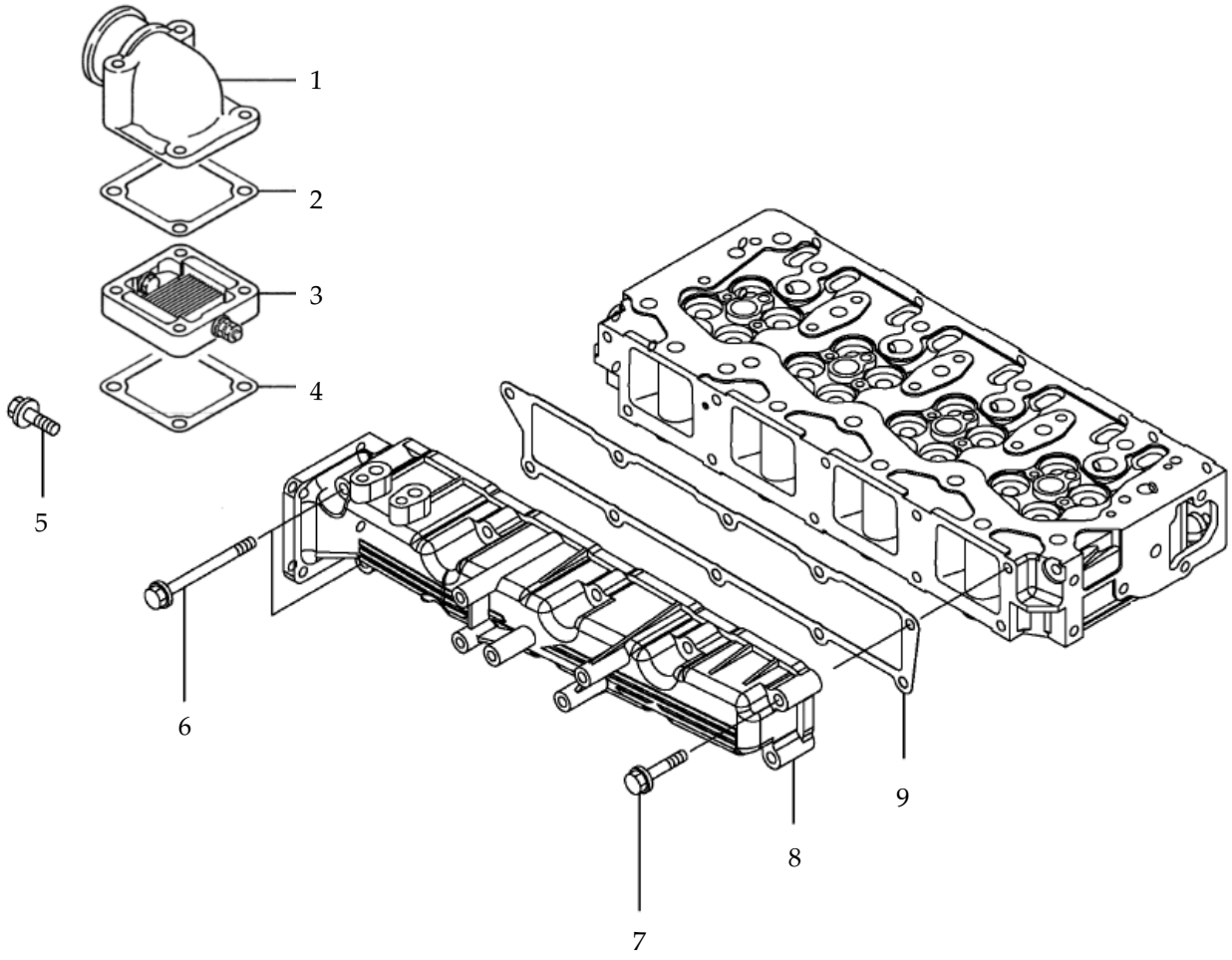
EXHAUST MANIFOLD—YANMAR TIER II DIESEL



Item	Part Number	Qty	Description
1	123900-13610	2	STUD, M8 X 80
2	26306-080002	2	NUT
3	119131-18320	4	BOLT, M8 X 22
4	129930-13200	1	GASKET, SILENCER
5	123900-13630	6	BOLT, M8 X 80
6	129907-13200	1	EXHAUST MANIFOLD
7	129900-13251	1	GASKET, EXHAUST MANIFOLD

EXHAUST & INTAKE SYSTEM

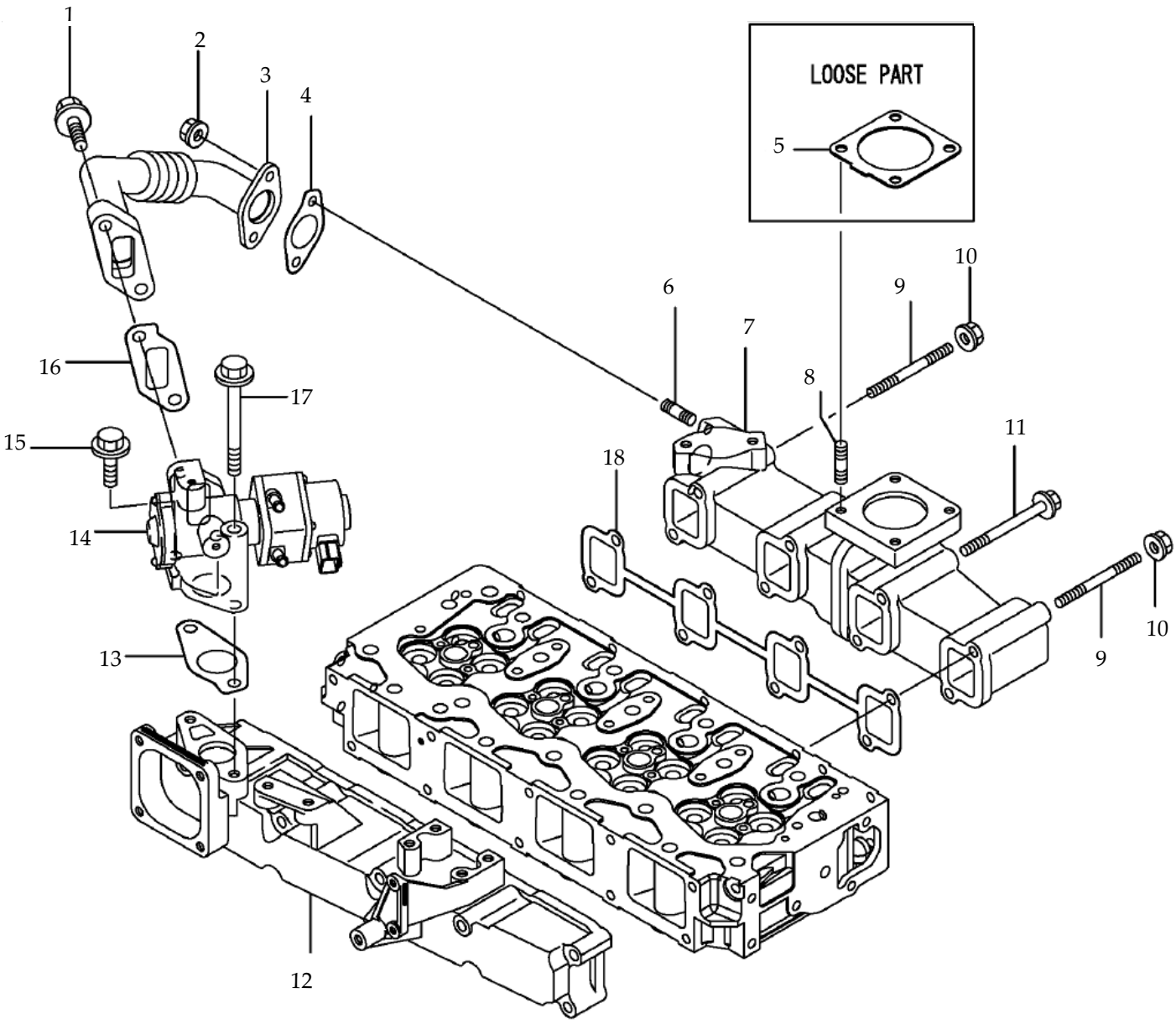
INTAKE MANIFOLD—YANMAR TIER II DIESEL



Item	Part Number	Qty	Description
1	119129-77520	1	INTAKE ELBOW
2	119129-77020	1	GASKET, AIR HEATER
3	119005-77050	1	AIR HEATER
4	121850-77021	1	GASKET, AIR HEATER
5	26106-080352	4	BOLT, M8 X 35 PLATED
6	26106-080802	2	BOLT, M8 X 80 PLATED
7	26106-080452	8	BOLT, M8 X 45 PLATED
8	129944-12110	1	INTAKE MANIFOLD
9	129907-12110	1	GASKET, INTAKE MANIFOLD

EXHAUST & INTAKE SYSTEM

EXHAUST MANIFOLD—YANMAR TIER III DIESEL



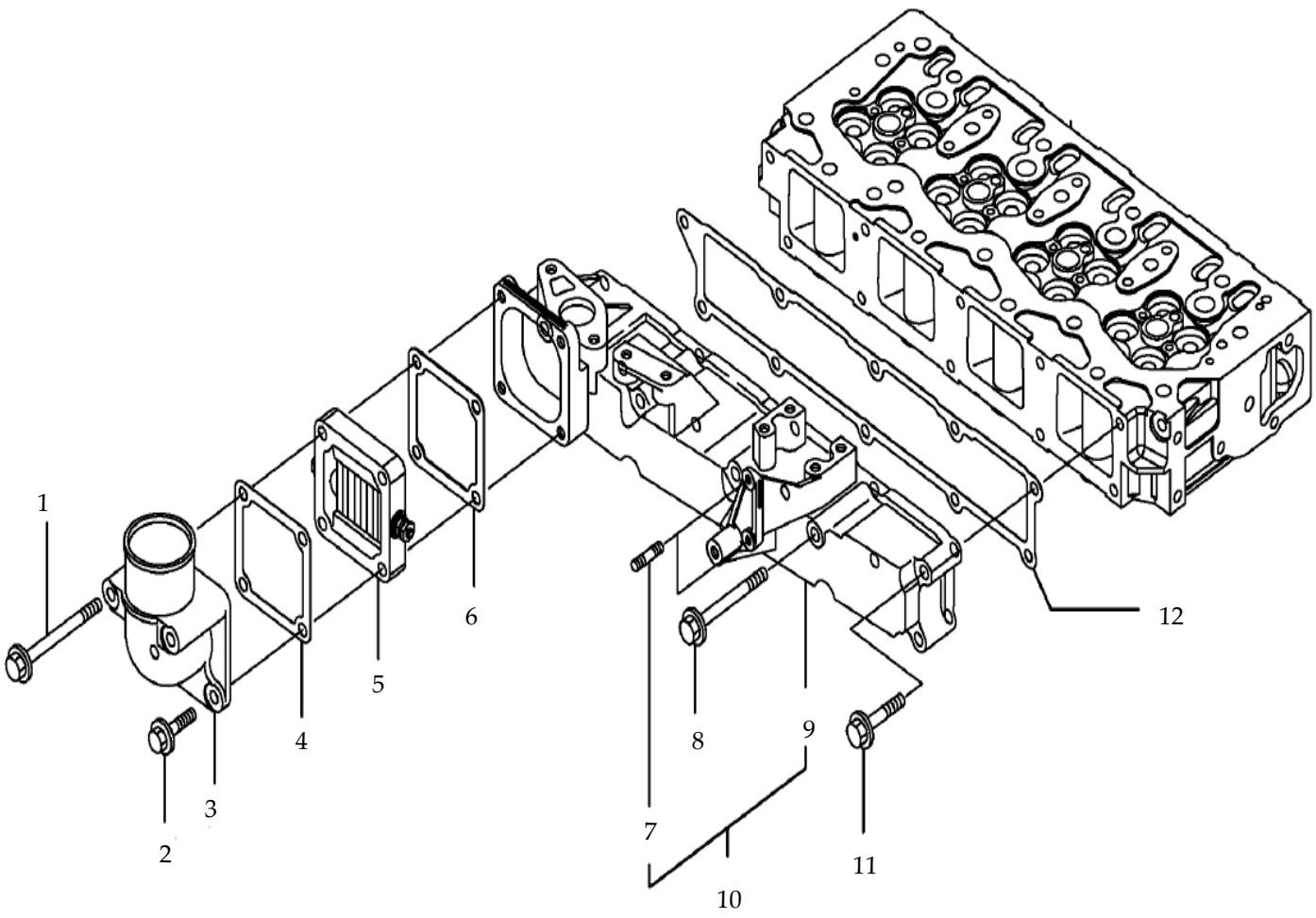
EXHAUST & INTAKE SYSTEM

EXHAUST MANIFOLD—YANMAR TIER III DIESEL

Item	Part Number	Qty	Description
1	26106-100302	2	BOLT, M10 X 30 PLATED
2	26306-080002	2	NUT
3	129927-13800	1	PIPE, EGR
4	129927-13810	1	GASKET, EGR
5	129930-13201	1	GASKET, SILENCER
6	129418-18320	2	STUD BOLT M8 X 20
7	129927-13100	1	EXHAUST MANIFOLD
8	119131-18320	4	BOLT, M8 X 22
9	129263-13210	2	STUD
10	26306-080002	2	NUT
11	119802-13680	6	BOLT, M8 X 90
12	129927-12100	1	INTAKE MANIFOLD
13	129927-13920	1	GASKET, EGR V-OUT
14	129927-13900	1	EGR VALVE
15	26106-100302	1	BOLT, M10 X 30 PLATED
16	129927-13910	1	GASKET, EGR V-IN
17	26106-100952	1	BOLT, M10 X 95 PLATED
18	129900-13251	1	GASKET

EXHAUST & INTAKE SYSTEM

INTAKE MANIFOLD—YANMAR TIER III DIESEL



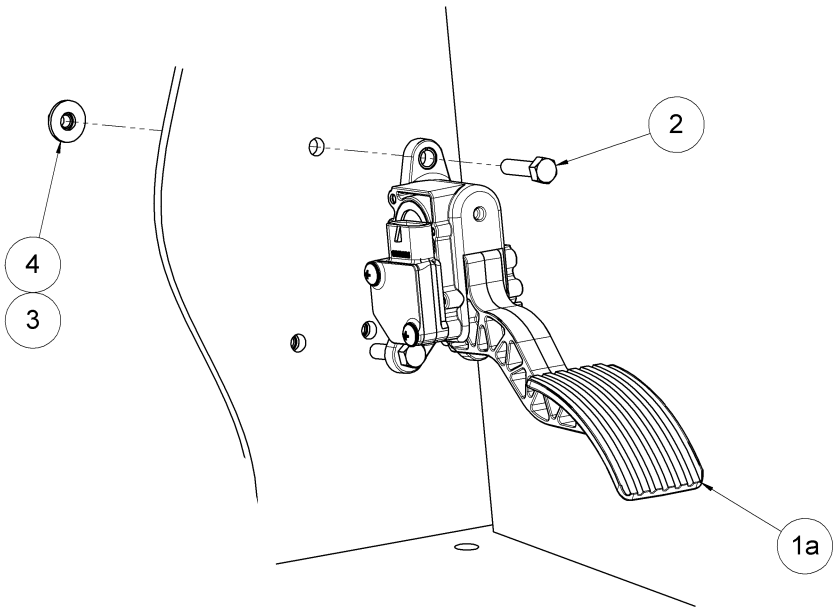
EXHAUST & INTAKE SYSTEM

INTAKE MANIFOLD—YANMAR TIER III DIESEL

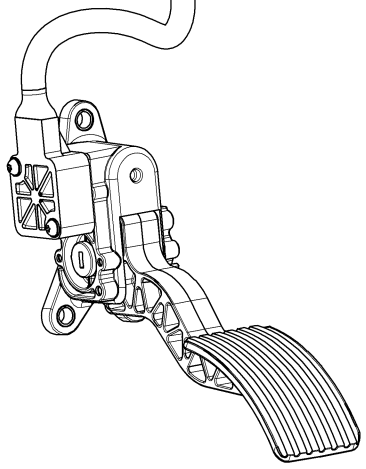
Item	Part Number	Qty	Description
1	26106-080902	2	BOLT, M8 X 90 PLATED
2	26106-080402	2	BOLT, M8 X 40 PLATED
3	119129-77520	1	BEND
4	119129-77020	1	GASKET
5	119005-77051	1	AIR HEATER
6	121850-77021	1	GASKET, AIR HEATER
7	26216-060202	2	STUD, M6 X 20 PLATED
8	26106-080802	4	BOLT, M8 X 80 PLATED
9	129927-12100	2	INTAKE MANIFOLD
10	129927-12150	1	MANIFOLD CMP, INTAKE
11	26106-080452	6	BOLT, M8 X 45 PLATED
12	129907-12110	1	GASKET, INTAKE MANIFOLD

Operator Compartment

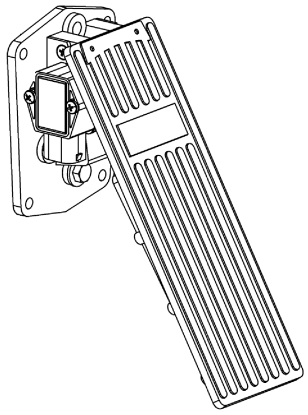
ACCELERATOR PEDAL ASSEMBLY-TIER III DIESEL



PEDALS SHOWN BELOW ARE OBSOLETE



NOTE ATTACHED WIRING. FOR REPLACEMENT, ORDER ITEM 1a

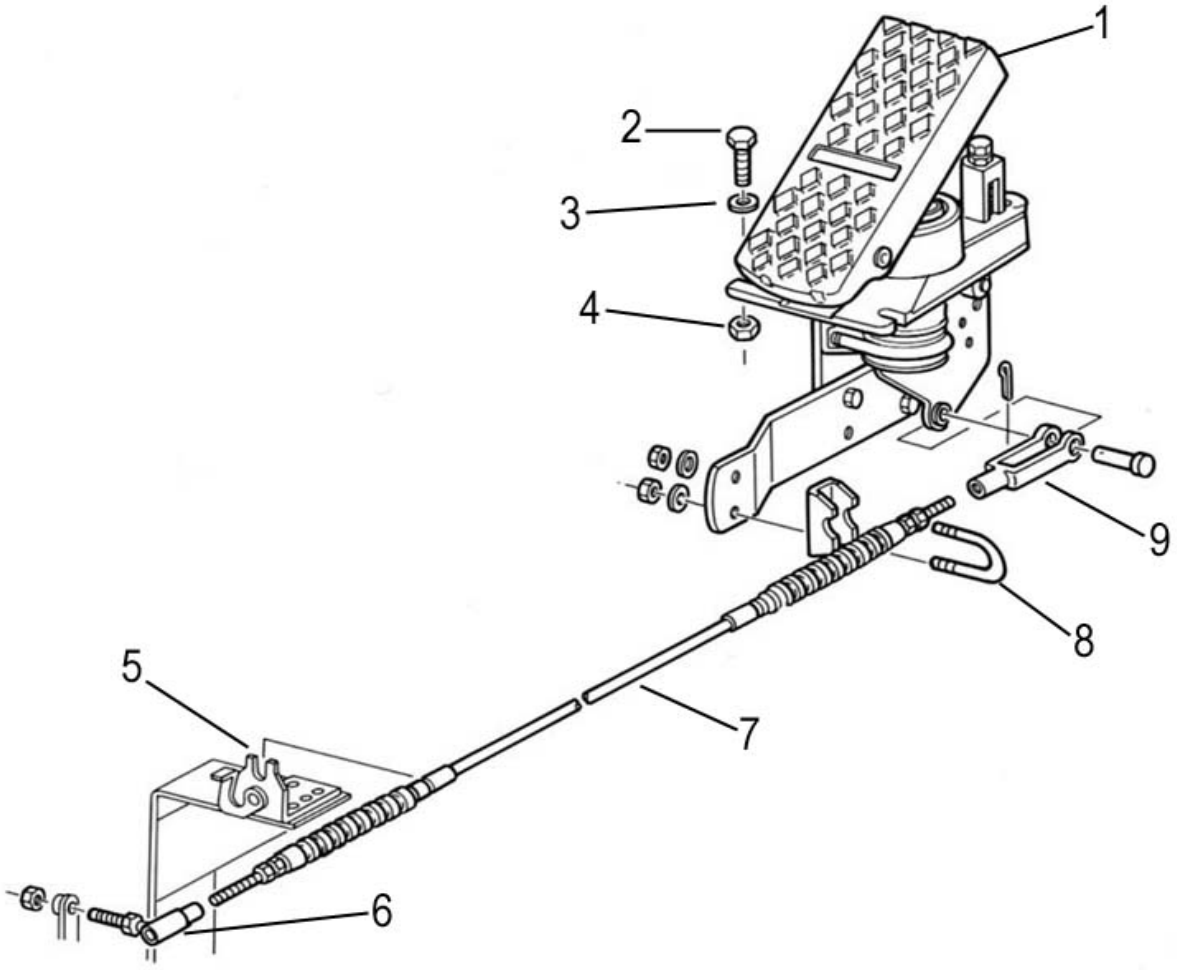


NOTE PEDAL STYLE. FOR REPLACEMENT, ORDER ITEM 1b.

Item	Part Number	Qty.	Description
1a	NVSP-14-028-KA	1	THROTTLE PEDAL, DUAL ANALOG (INCLUDES ADAPTOR HARNESS)
1b	NVSP-14-032-KA	-	THROTTLE PEDAL, DUAL ANALOG (INCLUDES ADAPTOR HARNESS)
2	NPN	3	HCS, 5/16-18 UNC X 1.25
3	NPN	3	FLAT WASHER, 5/16
4	NPN	3	LOCK NUT, 5/16-18 UNC

Operator Compartment

ACCELERATOR PEDAL ASSEMBLY —YANMAR TIER II DIESEL

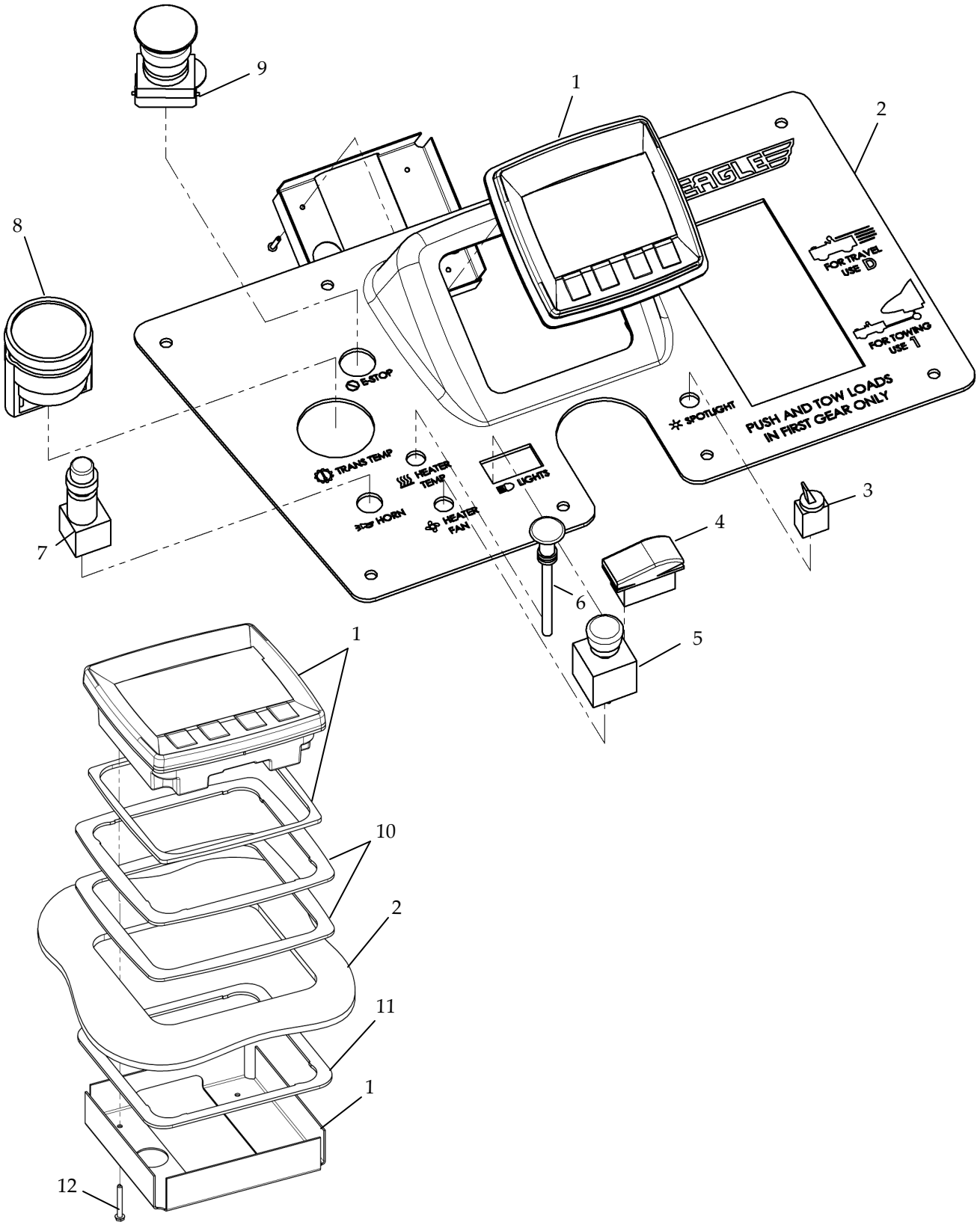


Item	Part Number	Qty	Description
1	A-TT4-00281-1	1	FOOT PEDAL ASSEMBLY
2	NPN	3	SCREW-HEX CAP-1/4-20 X 1.00 G8
3	NPN	3	WASHER-FLAT-1/4
4	NPN	3	NUT-LOCK-1/4-20
5	A-TT4-00285*	1	ACCEL CABLE BRACKET
6	A-TT4-00287	1	BALL JOINT KIT - NUT INCLUDED
7	A-TT4-00282-1	1	ACCELERATOR CABLE ASSEMBLY
8	A-TT4-00247	1	ACCELERATOR U-BOLT KIT
9	A-TT4-00283-1	1	ACCELERATOR CLEVIS-PIN KIT

*TUG MODEL AND SERIAL NUMBER REQUIRED TO ORDER THIS PART

OPERATOR COMPARTMENT

INSTRUMENT PANEL - SAUER DANFOSS DISPLAY/CONTROLLER



Operator Compartment

INSTRUMENT PANEL - SAUER DANFOSS DISPLAY/CONTROLLER

Item	Part Number	Qty	Description
1	A-TT8-00417	1	TT ELECTRONIC DISPLAY
2	C-TT4-00411-1	1	DASH PANEL (NO INSTRUMENTS)
3	A-TT4-00433-1	1	SPOTLIGHT TOGGLE SWITCH(OPTIONAL)
4	A-TT4-00423-2	1	HEADLIGHT SWITCH
5	A-TT4-00609	1	HEATER FAN SWITCH(OPTIONAL)
6	A-TT4-00608	1	HEATER CONTROL CABLE(OPTIONAL)
7	A-TT4-00428	1	HORN BUTTON
8	AE-OPT-0152	1	TRANS TEMP GAUGE (OPTIONAL)
9	AE-OPT-0066	1	E-STOP (OPTIONAL)
10	A-TT8-00421	1	SAUER MOUNTING KIT
11	A-TT8-00418	1	DISPLAY MOUNTING RING
12	A-TT8-00413	4	M3X20 DISPLAY MOUNTING SCREW NOTE: MUST BE INSTALLED WITH THREAD LUBRICANT
N/S	NVSP-14-025-SA	1	KEY SWITCH BRACKET
N/S	NVSP-05-005-CA	1	SEALED KEY SWITCH, 3-POSITION
N/S	NVSP-05-005-CB	1	SEALED KEYLESS SWITCH, 3-POSITION (OPTIONAL)

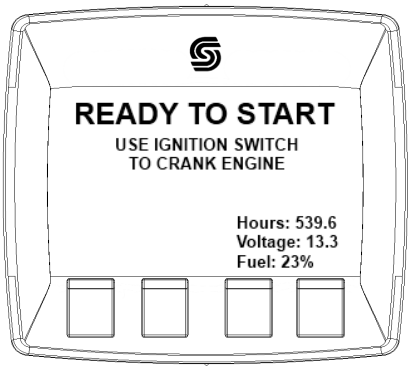
Eagle Tugs TT-series Quick Start Guide

Powering up the tractor:

Verify that the transmission is in “Park” or “Neutral.”

Verify that the parking brake has been set.

Turn the ignition switch to the “ON” position.



Starting the Engine:

Once the Sauer display panel has booted up, it will prompt you to turn the ignition switch to crank the engine.

**For cold weather operation, the display will prompt you to wait for the engine warm-up before prompting you to crank the engine.*

Turning off the Engine:

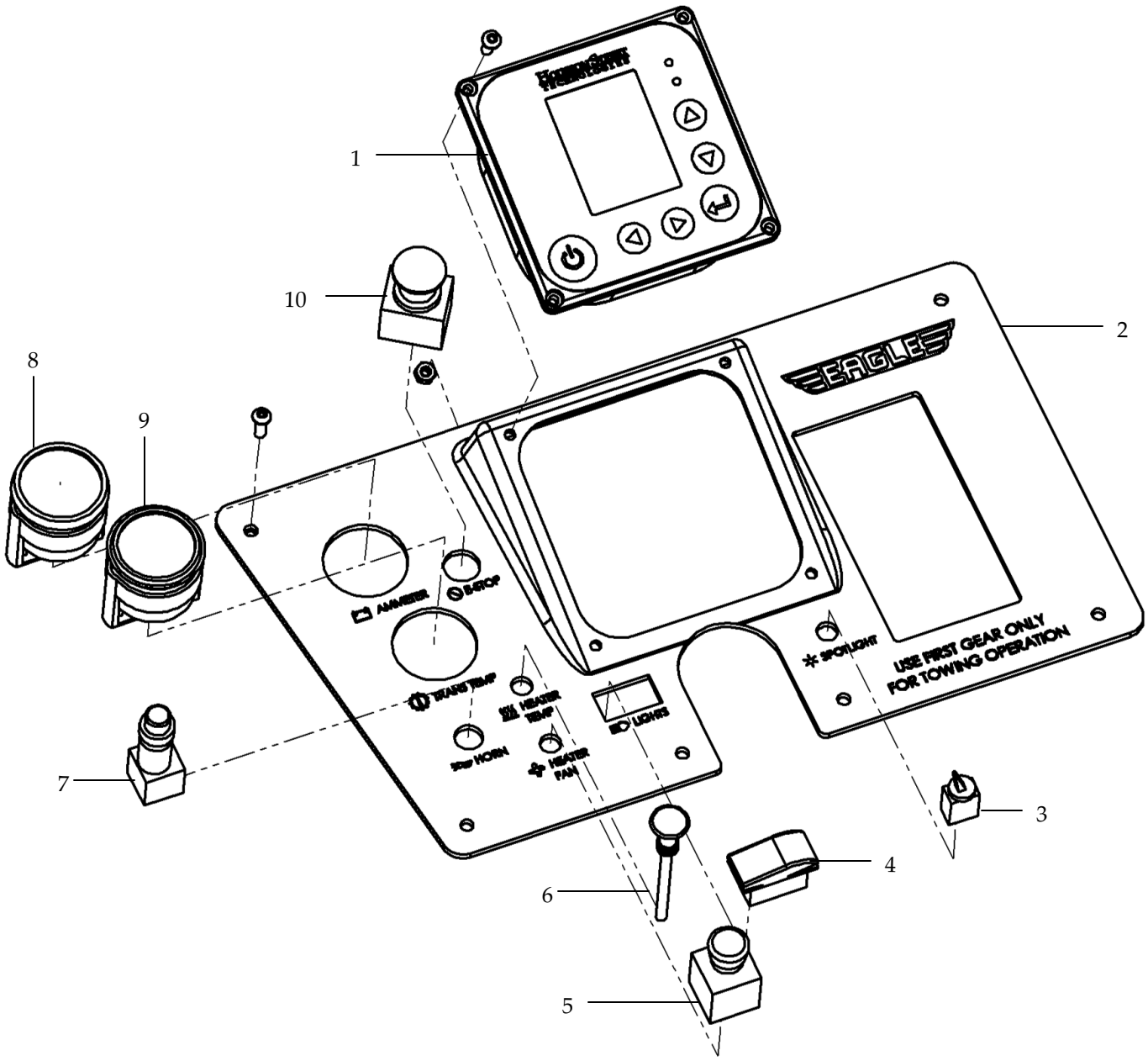
Bring the tractor to a complete stop.

Set the parking brake.

Turn the ignition switch to the “OFF” position.

Operator Compartment

INSTRUMENT PANEL - H30 DISPLAY/CONTROLLER - NO LONGER AVAILABLE



Operator Compartment

INSTRUMENT PANEL - H30 DISPLAY/CONTROLLER - NO LONGER AVAILABLE

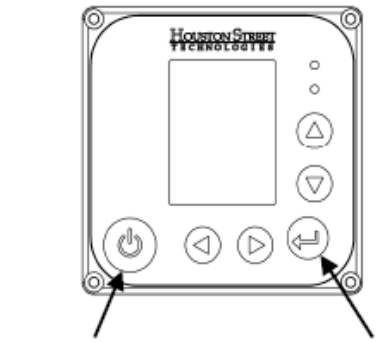
Item	Part Number	Qty	Description
1	A-TT8-00415	1	ELECTRONIC CONTROLLER DISPLAY
2	C-TT4-00411-1	1	DASH PANEL (NO INSTRUMENTS)
3	A-TT4-00433-1	1	SPOTLIGHT TOGGLE SWITCH(OPTIONAL)
4	A-TT4-00423-2	1	HEADLIGHT SWITCH
5	A-TT4-00609	1	HEATER FAN SWITCH(OPTIONAL)
6	A-TT4-00608	1	HEATER CONTROL CABLE(OPTIONAL)
7	A-TT4-00428	1	HORN BUTTON
8	AE-OPT-0084	1	AMMETER GUAGE (OPTIONAL)
9	AE-OPT-0152	1	TRANS TEMP GAUGE (OPTIONAL)
10	AE-OPT-0066	1	E-STOP (OPTIONAL)

Eagle Tugs TT-series Quick Start Guide

Powering up the H30 Display Panel:
Pressing the **POWER** button will turn on the H30 control panel
*On key ignition equipped units, turn the key to the on position
And then press the **POWER** button.

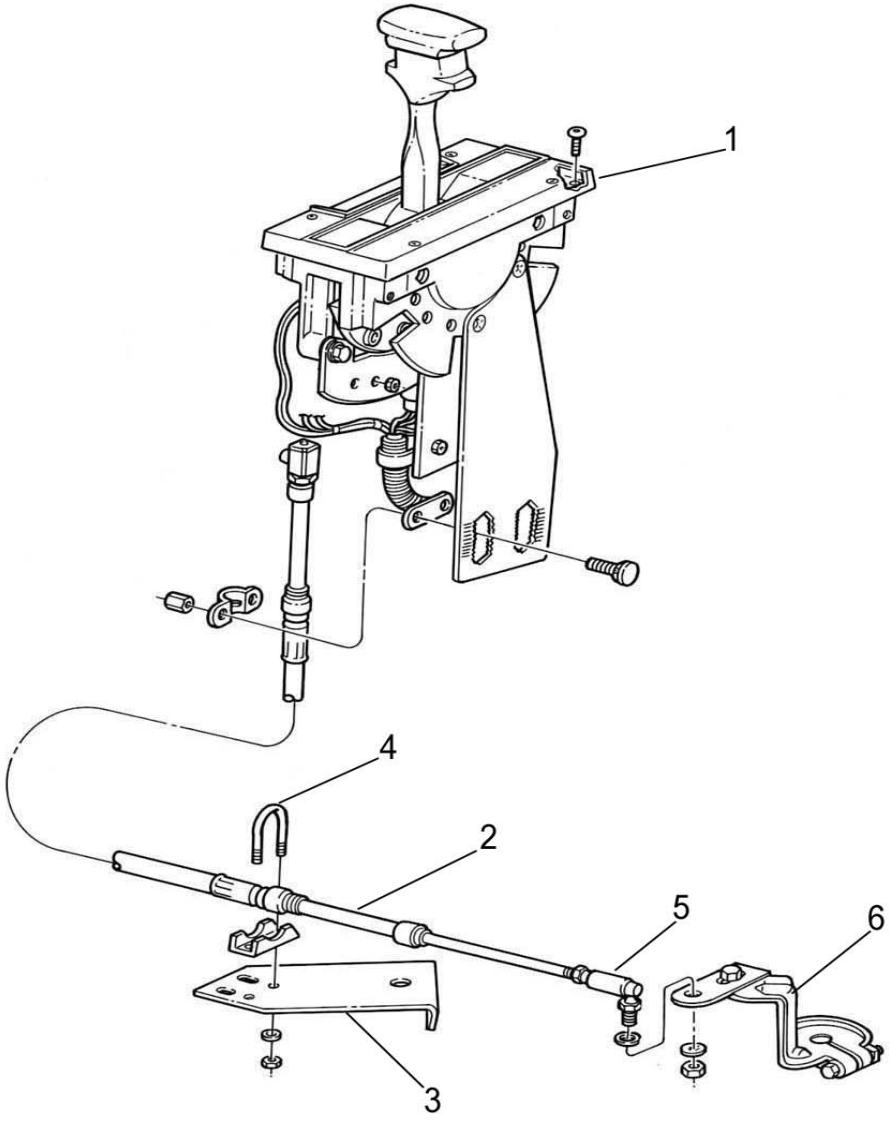
Starting the Engine:
Once the H30 panel has booted up, it will prompt you to hold the **ENTER** key to crank the engine. Hold the **ENTER** key until the unit starts.
*For cold weather operation, the display will prompt you to wait for the engine warm-up before prompting you to crank the engine.

Turning off the Engine:
To turn off the engine, press the **POWER** button.
*On key ignition equipped units, turn the key to the off position after the display panel has turned off.



Operator Compartment

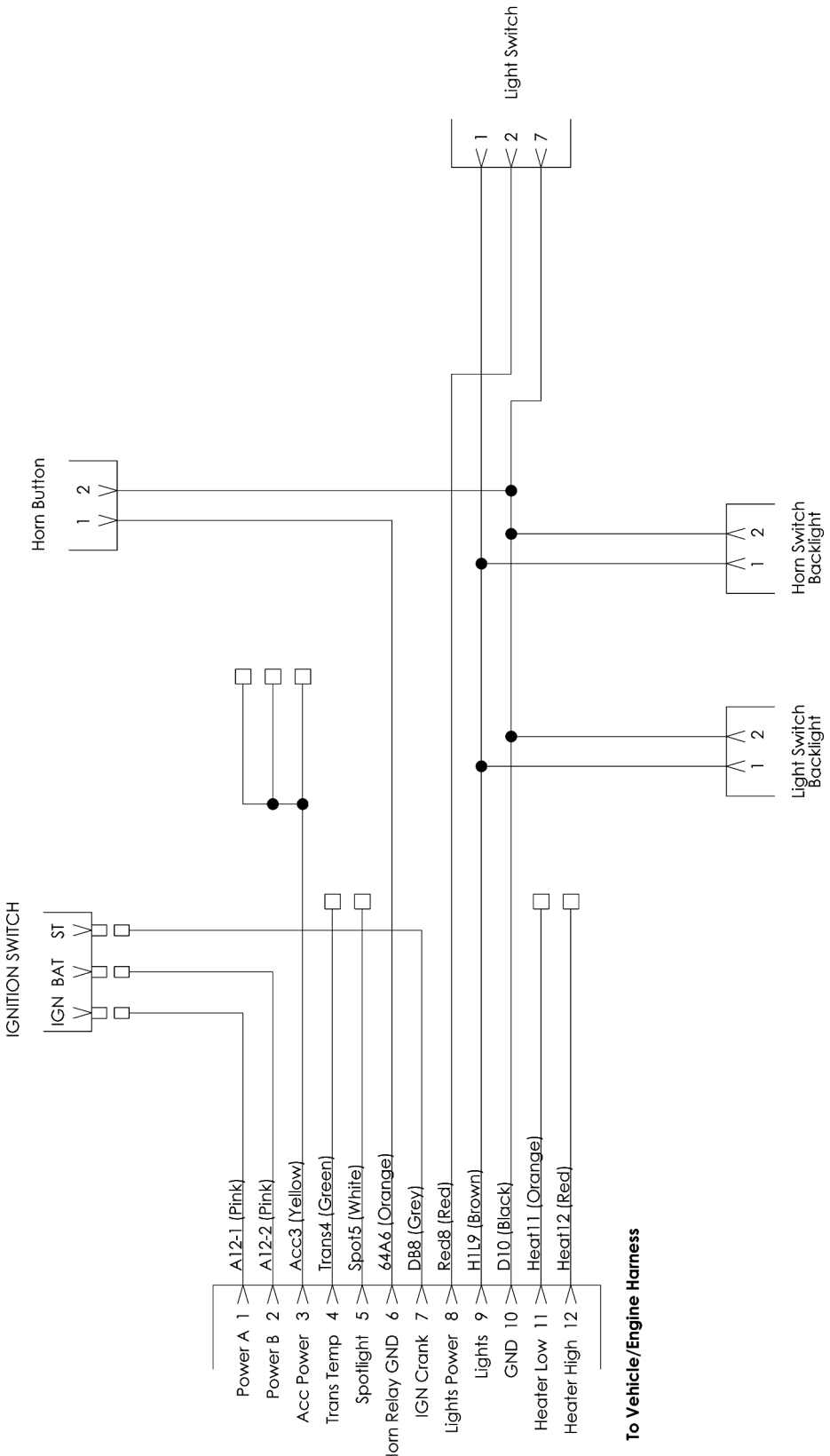
TRANSMISSION CONTROL



Item	Part Number	Qty	Description
1	A-TT4-00245	1	TRANSMISSION SHIFT CONTROL
2	A-TT4-00246	1	TRANSMISSION SHIFT CABLE 120'
3	A-TT4-00248	1	TRANSMISSION CABLE BRACKET ASSEMBLY
4	A-TT4-00247	1	U-BOLT KIT
5	A-TT4-00249	1	BALL JOINT KIT
6	A-TT4-00419	1	TRANSMISSION LEVER
7	302008	1	INDICATOR STRIP REPAIR KIT(NS)
8	302348	1	HANDLE REPAIR KIT(NS)

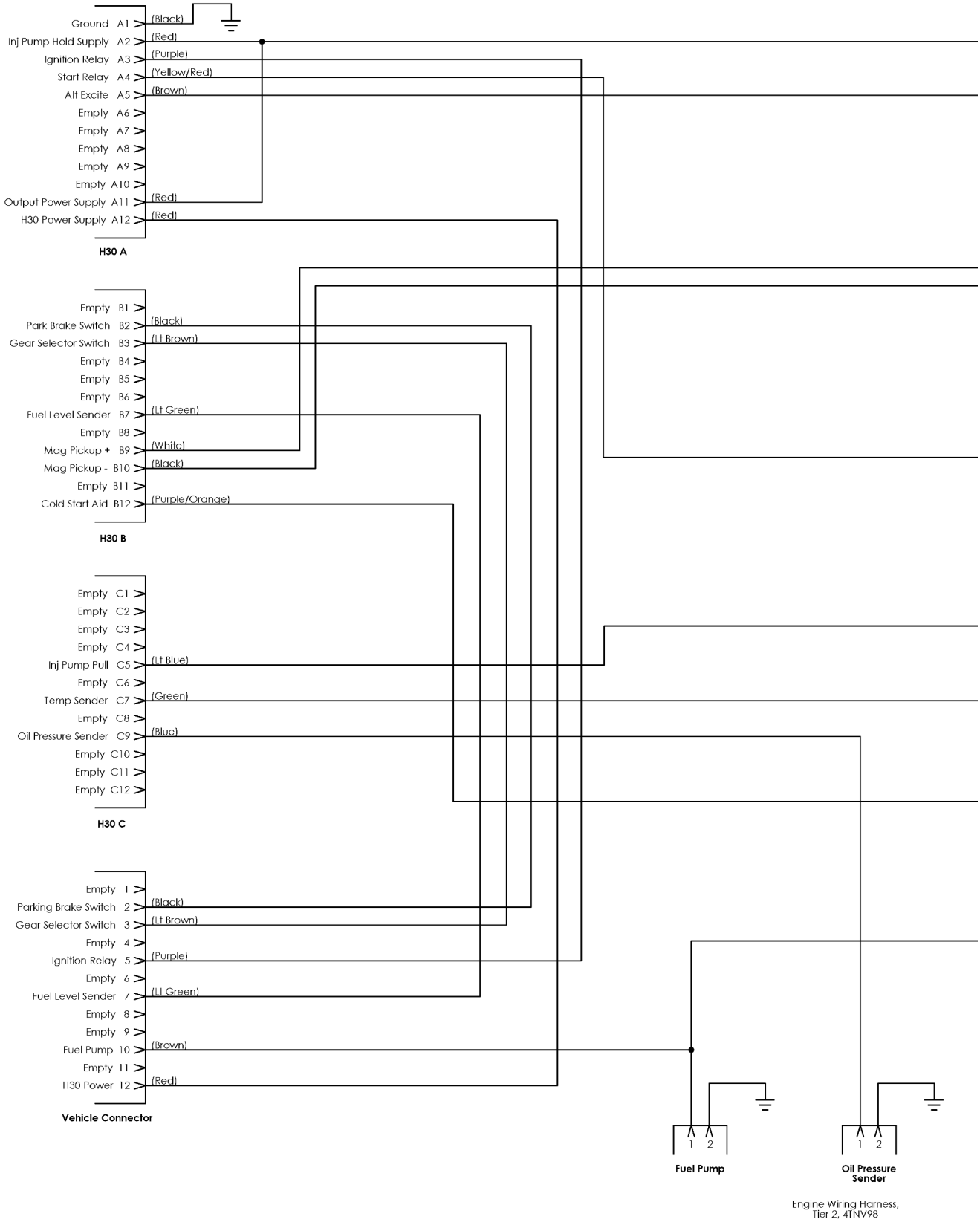
ELECTRICAL SCHEMATICS

DASH WIRING HARNESS



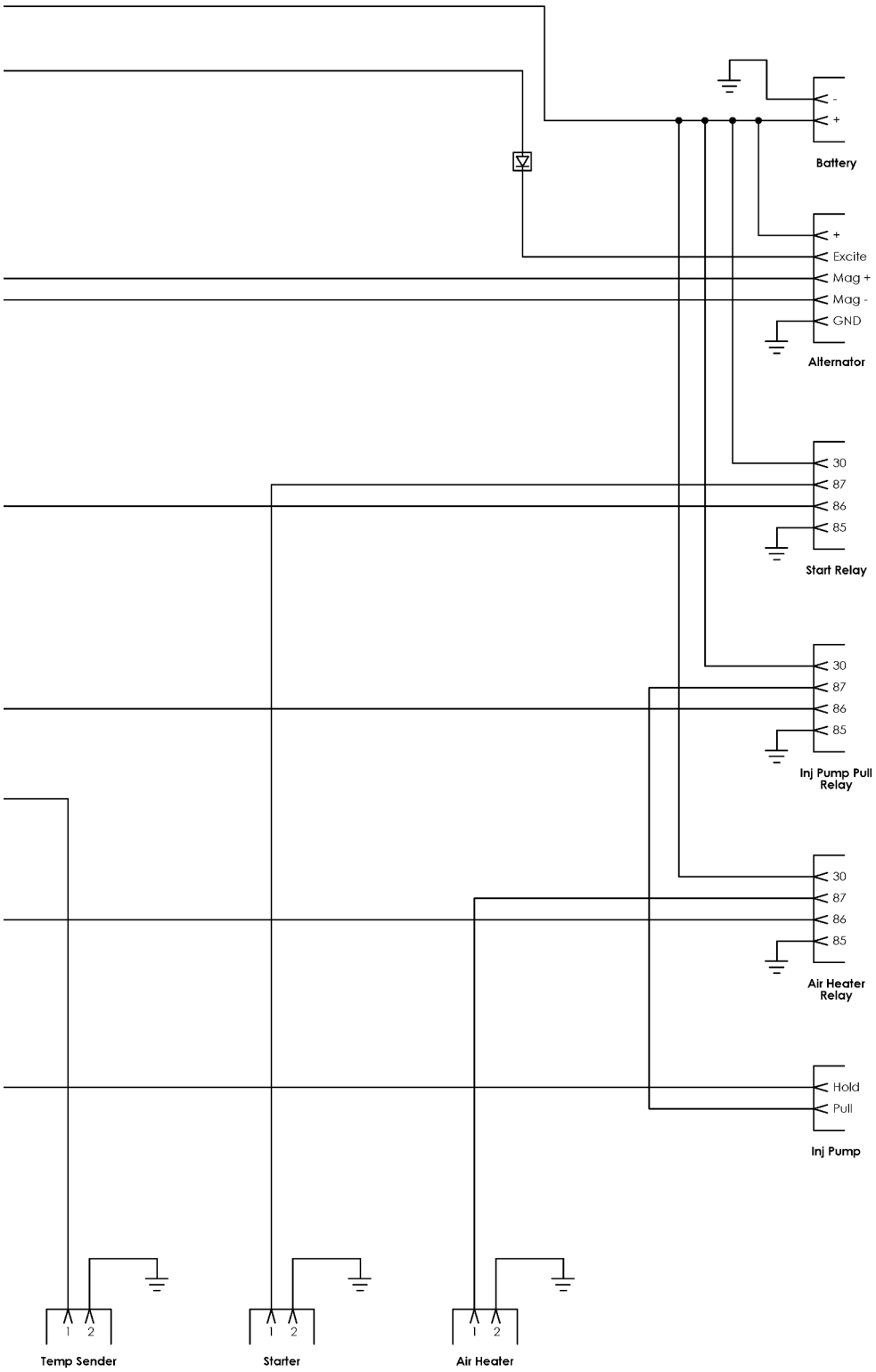
ELECTRICAL SCHEMATICS

YANMAR ENGINE WIRING HARNESS — YANMAR TIER II DIESEL



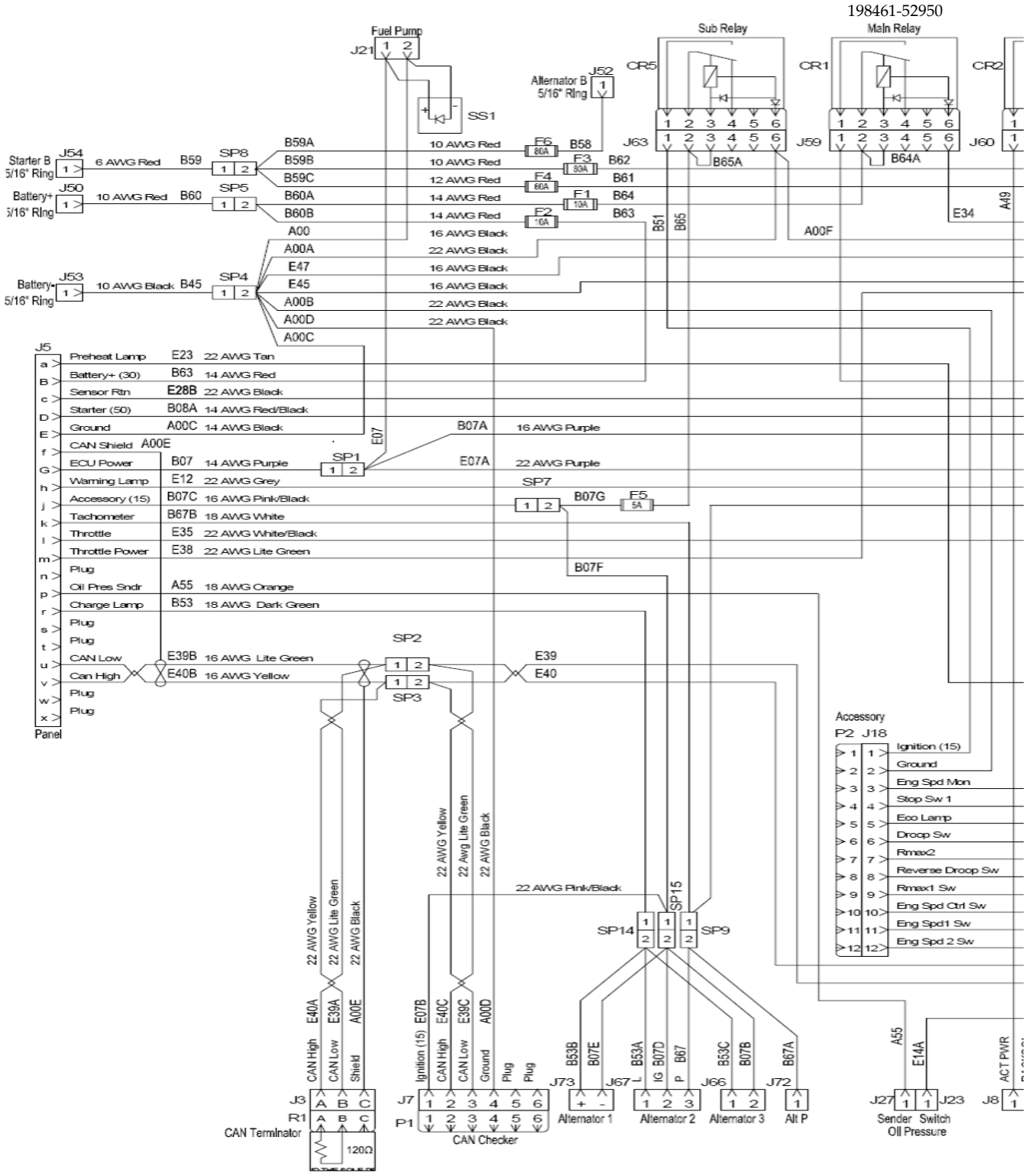
ELECTRICAL SCHEMATICS

YANMAR ENGINE WIRING HARNESS — YANMAR TIER II DIESEL



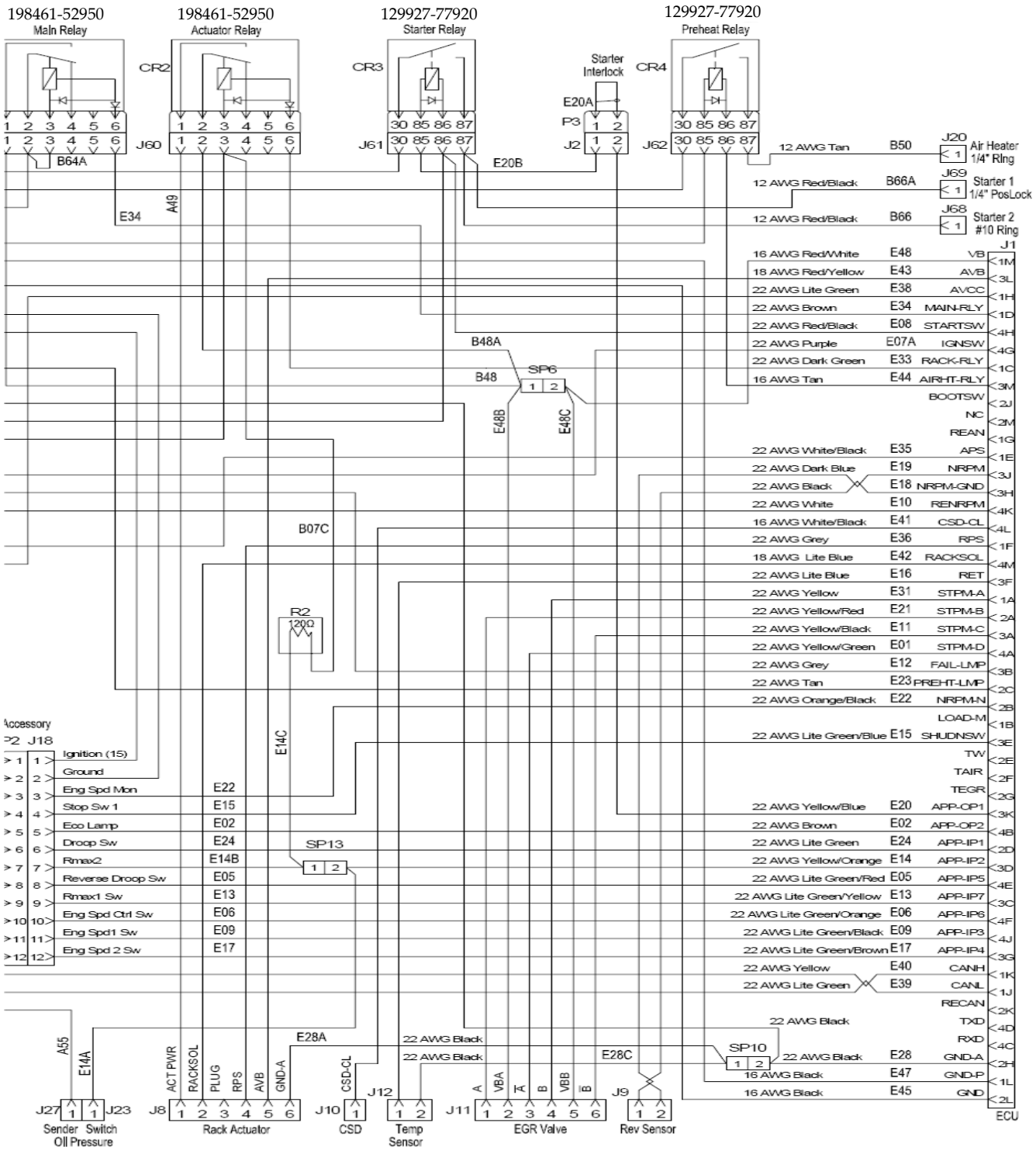
ELECTRICAL SCHEMATICS

YANMAR ENGINE WIRING HARNESS — YANMAR TIER III DIESEL



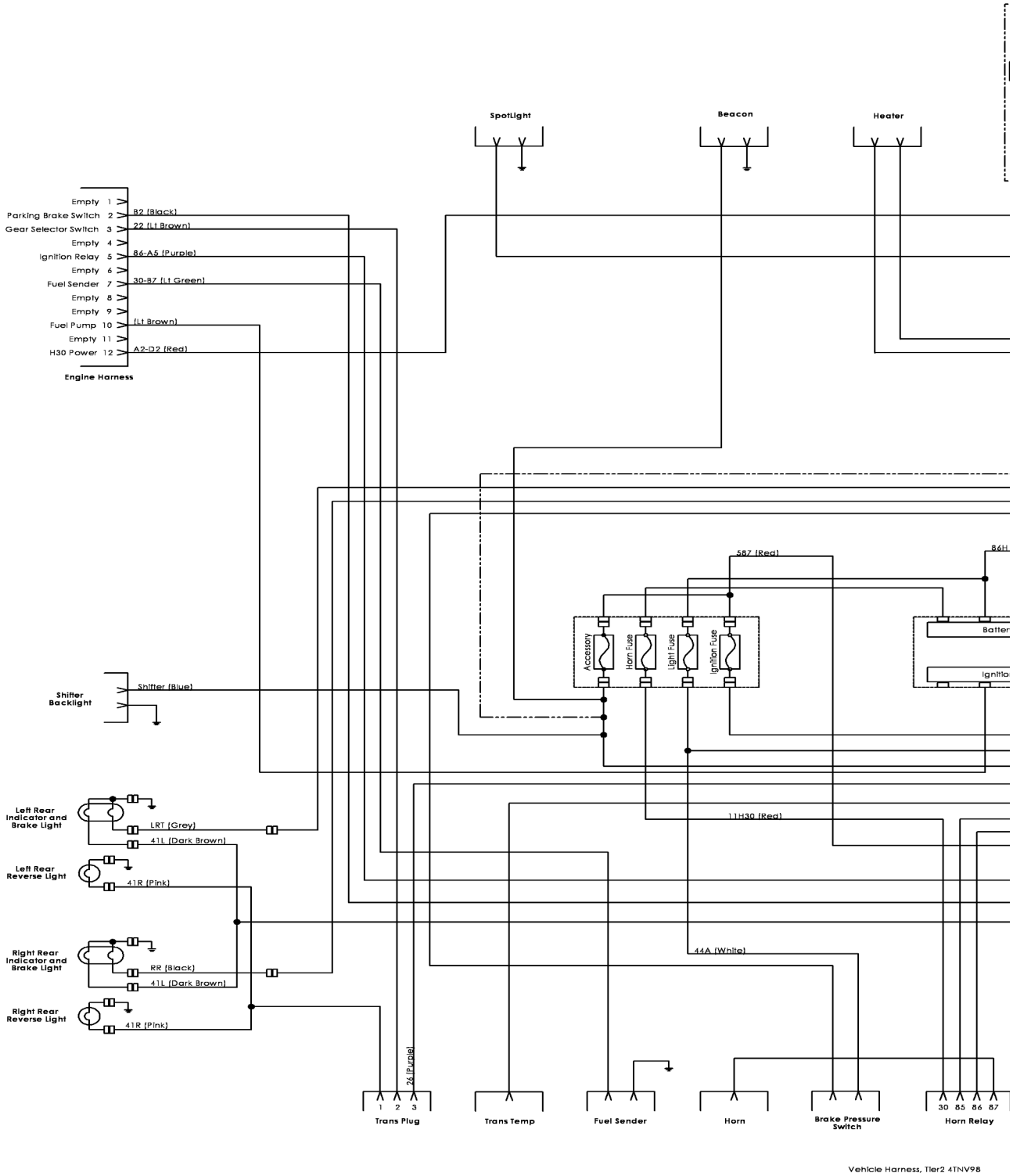
ELECTRICAL SCHEMATICS

YANMAR ENGINE WIRING HARNESS — YANMAR TIER III DIESEL



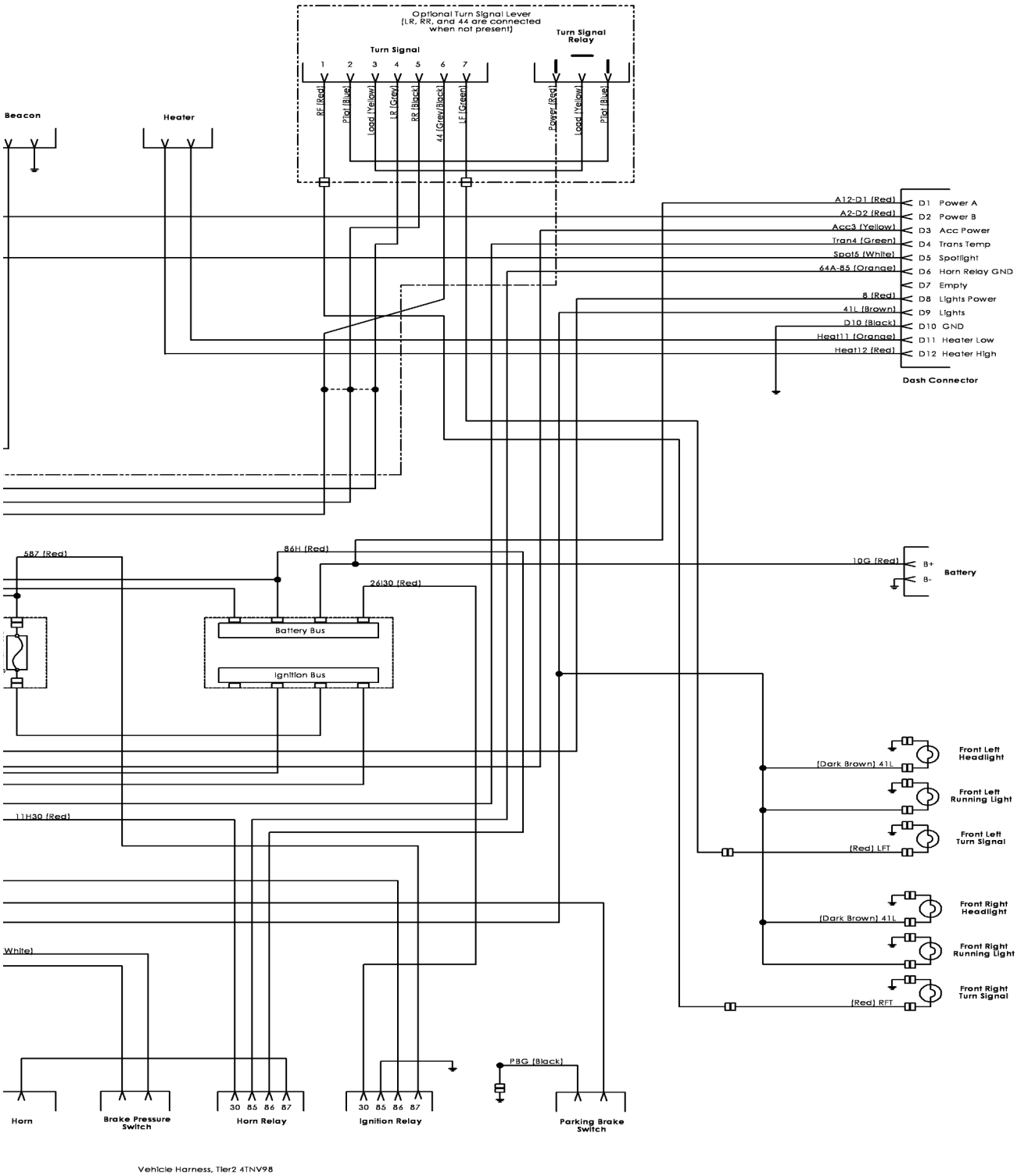
ELECTRICAL SCHEMATICS

VEHICLE WIRING HARNESS—YANMAR TIER II DIESEL



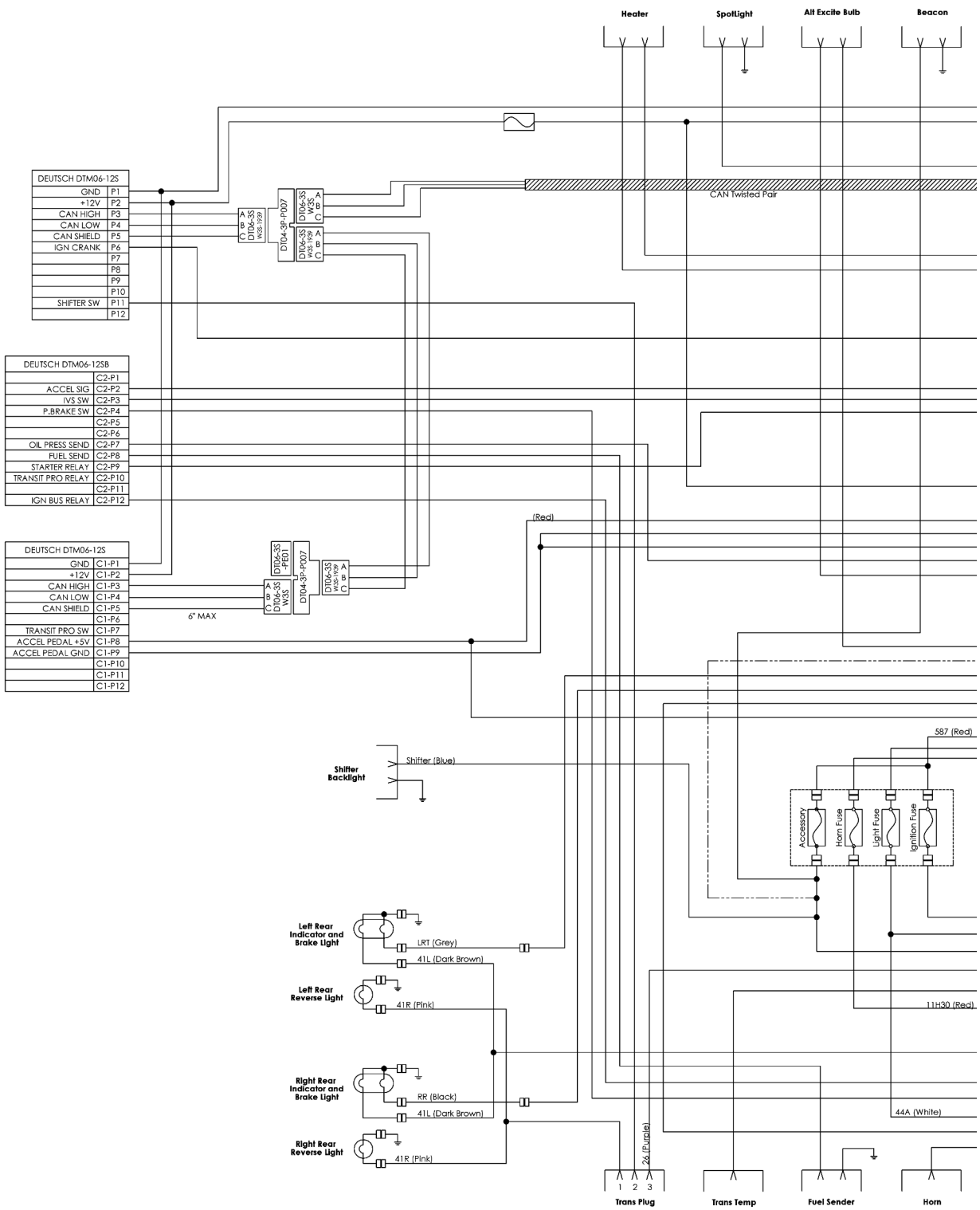
ELECTRICAL SCHEMATICS

VEHICLE WIRING HARNESS — YANMAR TIER II DIESEL



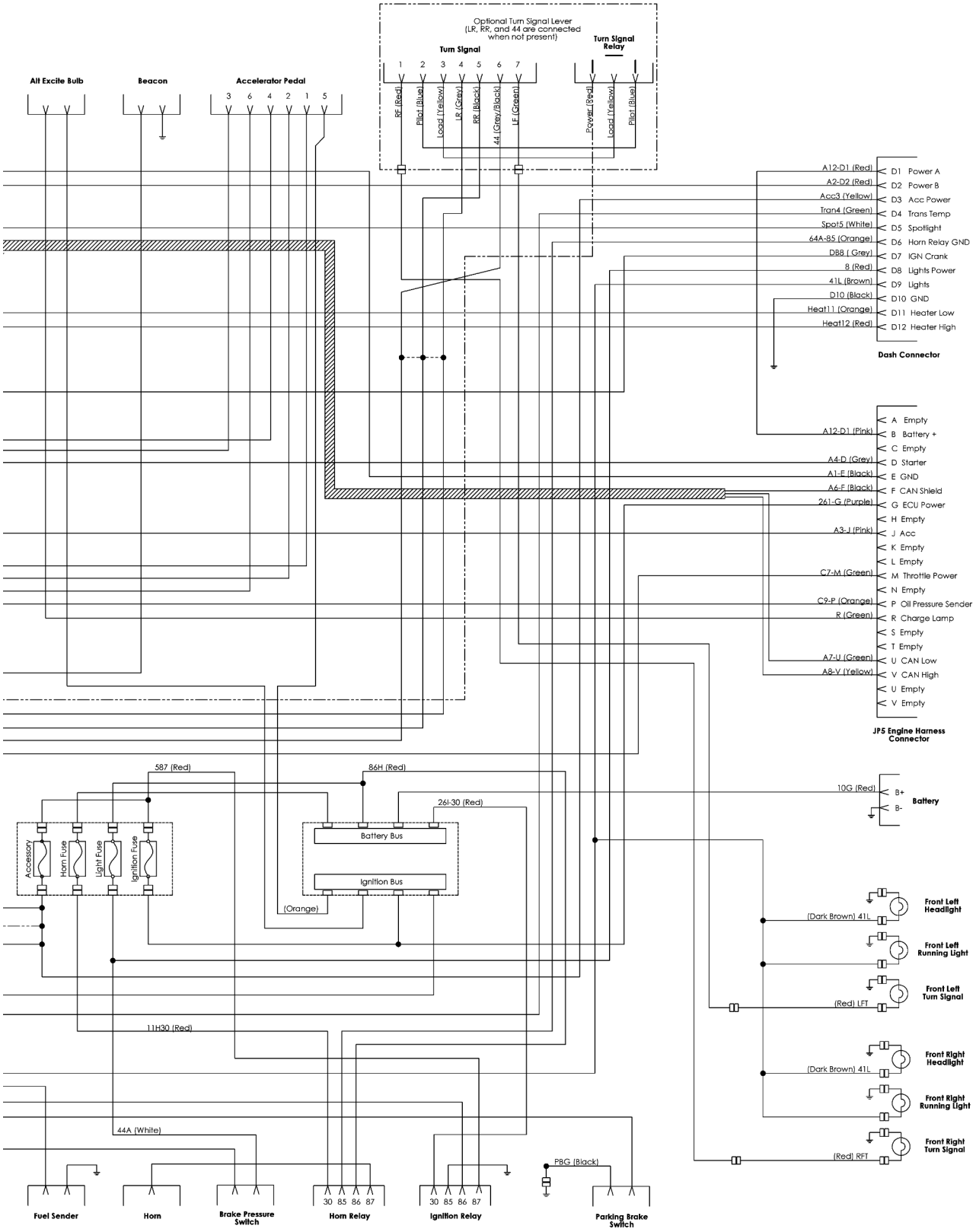
ELECTRICAL SCHEMATICS

VEHICLE WIRING HARNESS—YANMAR TIER III DIESEL (PRIOR TO 10/2013)



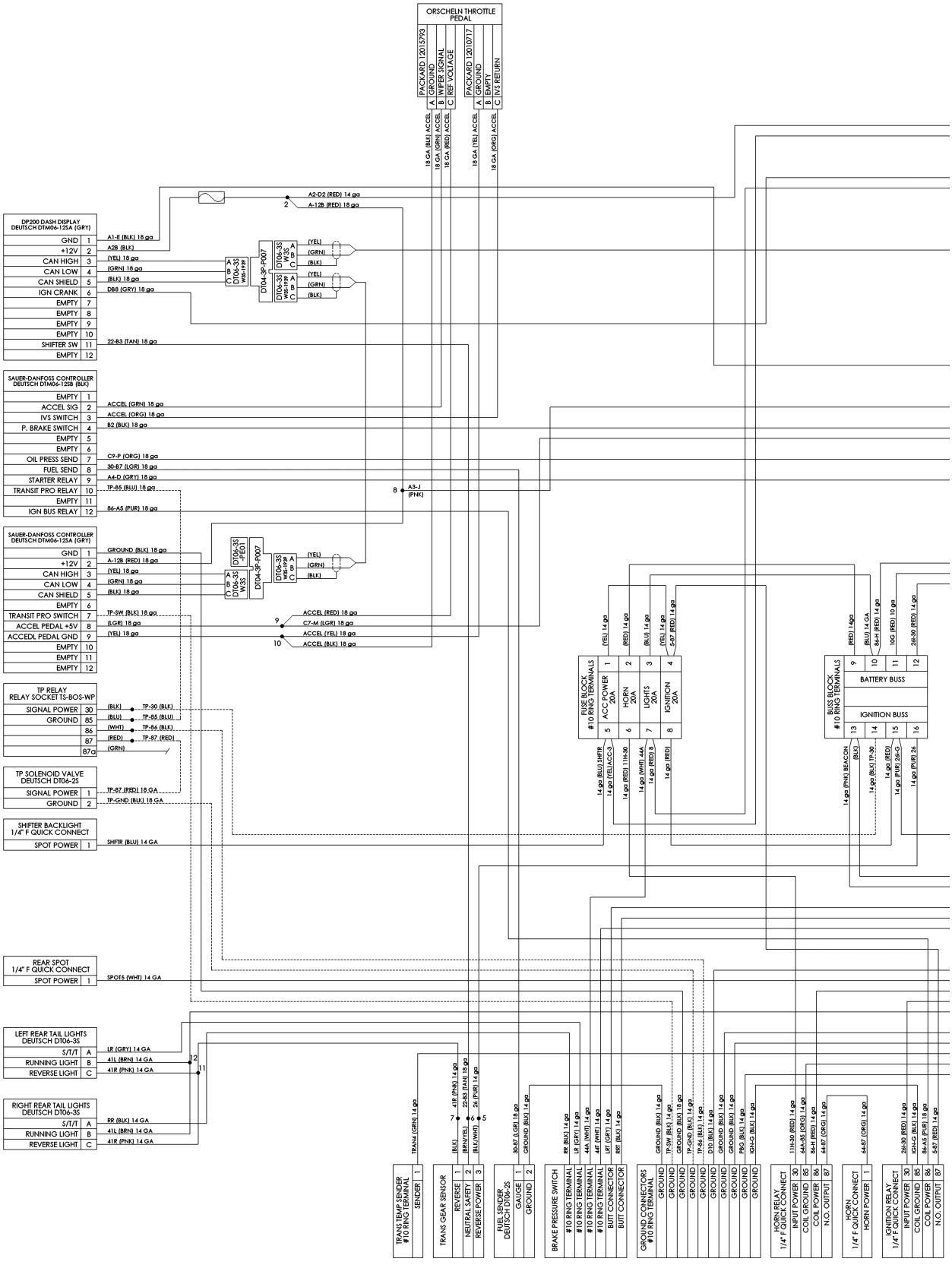
ELECTRICAL SCHEMATICS

VEHICLE WIRING HARNESS— YANMAR TIER III DIESEL (PRIOR TO 10/2013)



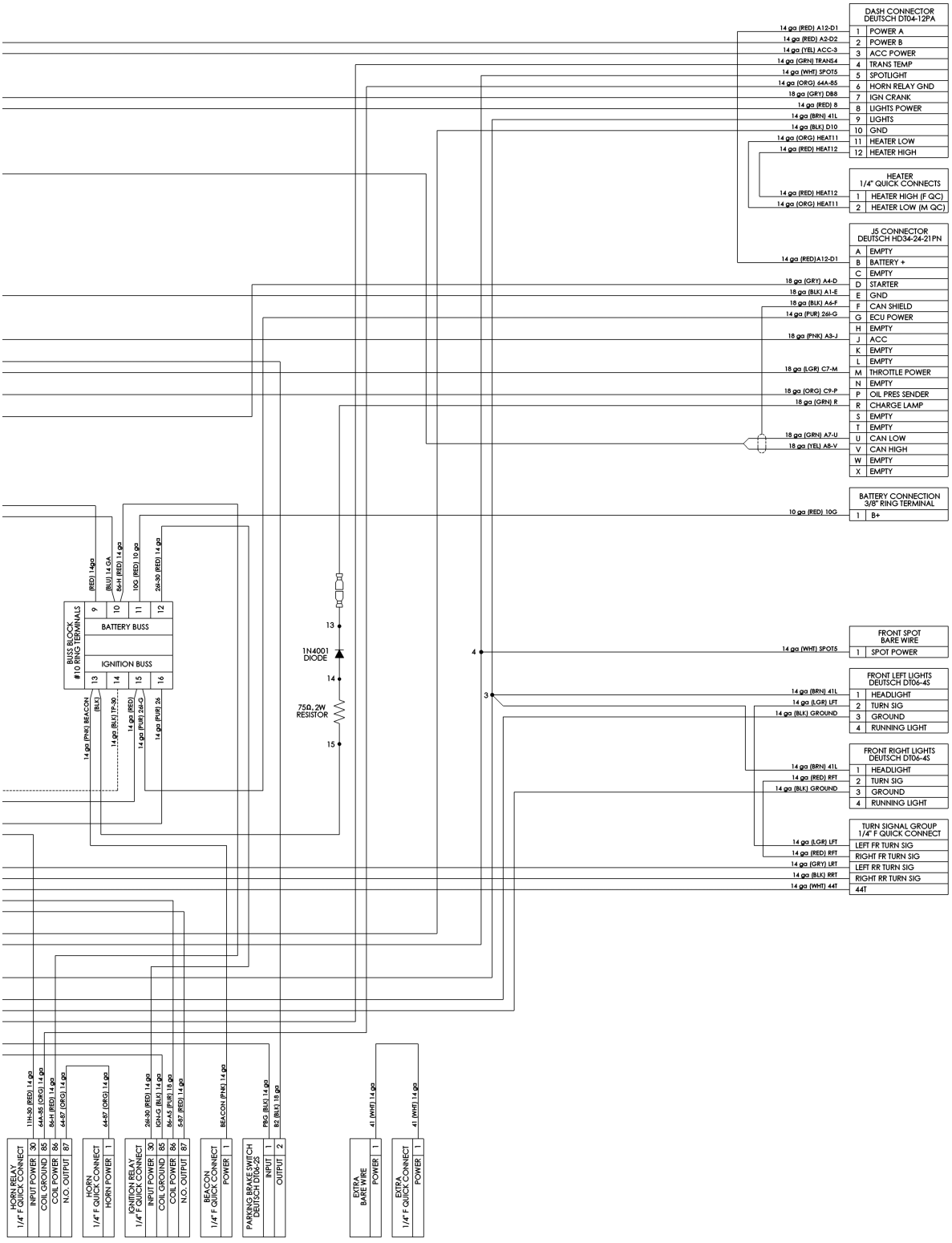
ELECTRICAL SCHEMATICS

VEHICLE WIRING HARNESS—YANMAR TIER III DIESEL (10/2013 THRU 9/2014)



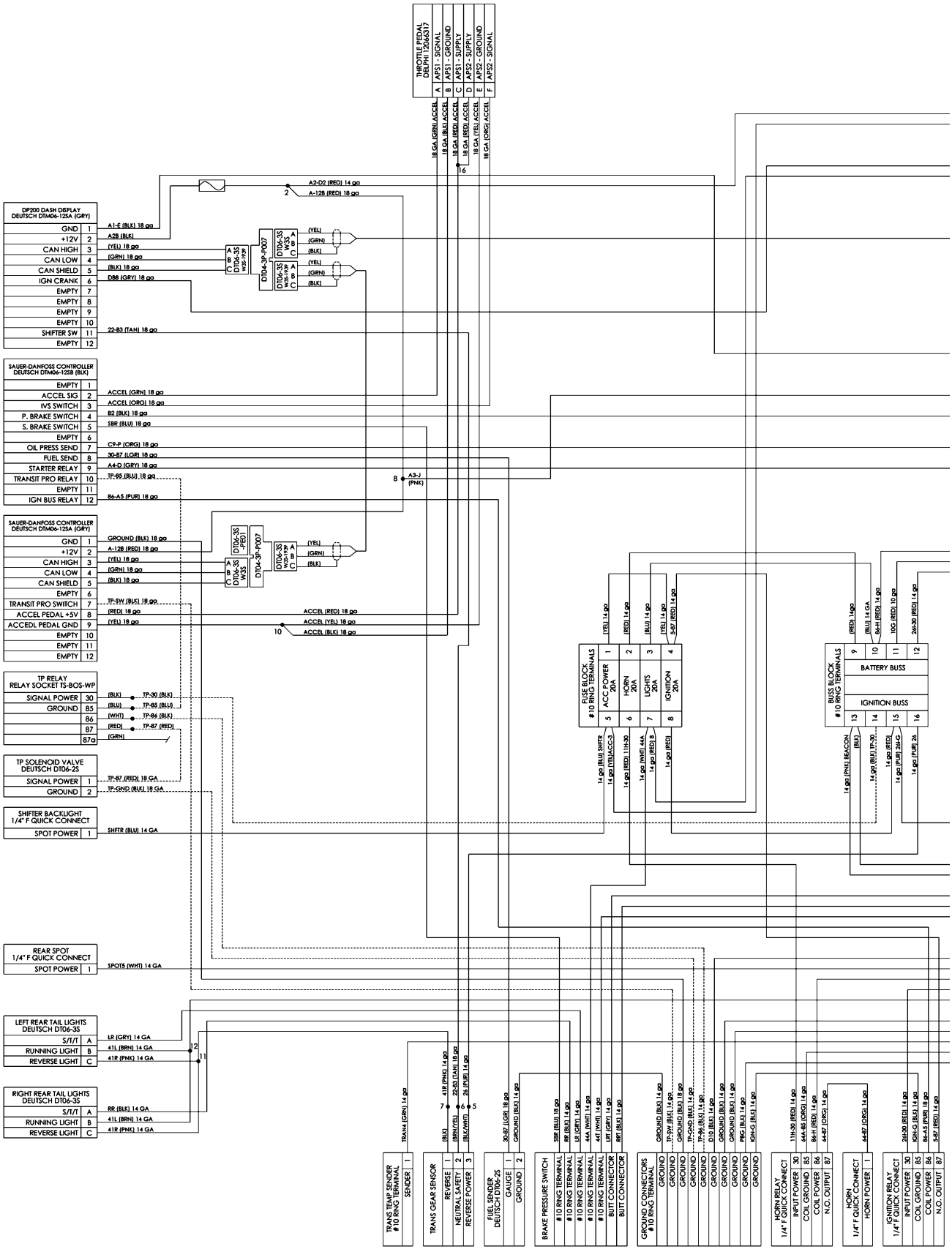
ELECTRICAL SCHEMATICS

VEHICLE WIRING HARNESS—YANMAR TIER III DIESEL (10/2013 THRU 9/2014)



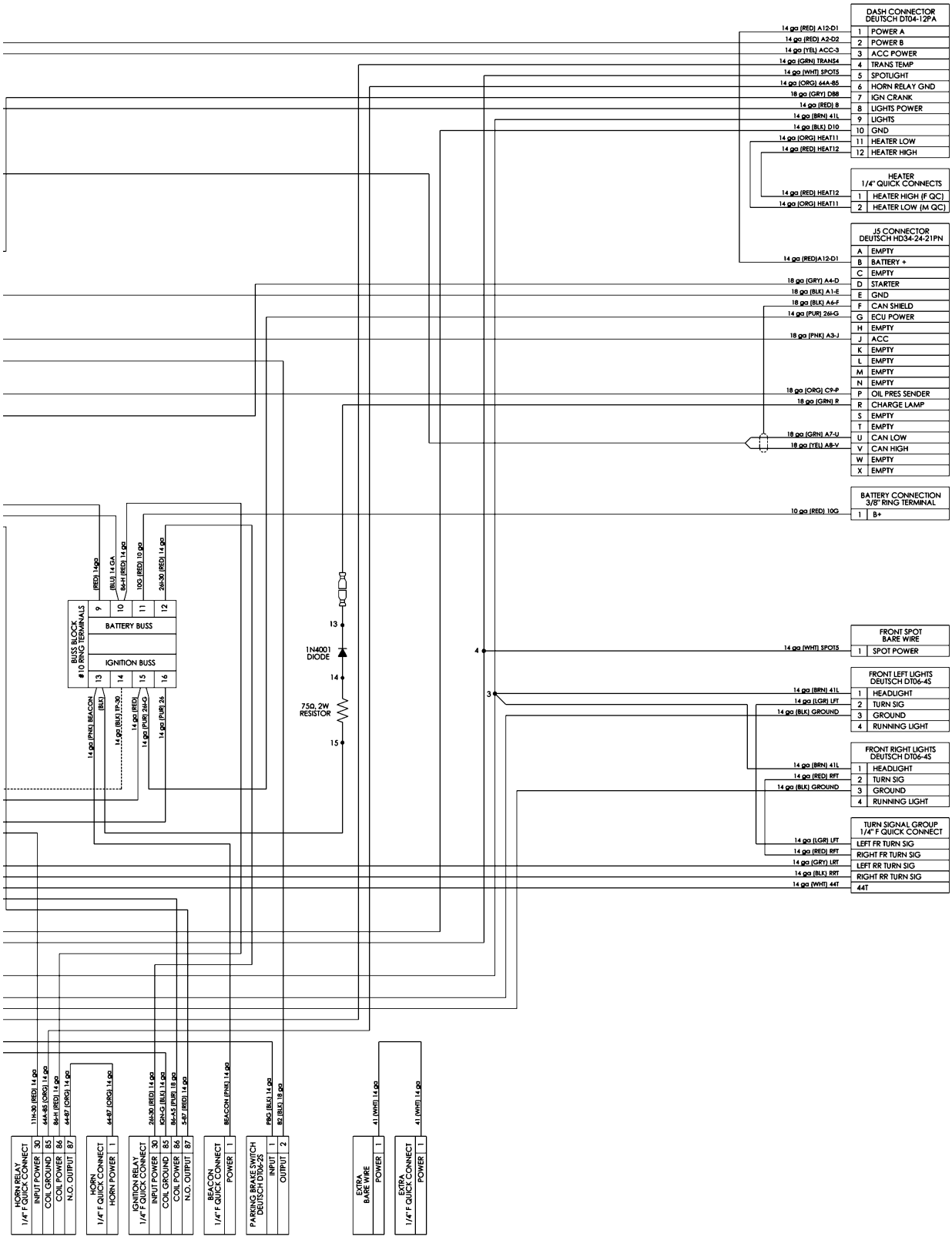
ELECTRICAL SCHEMATICS

VEHICLE WIRING HARNESS—YANMAR TIER III DIESEL (9/2014 AND LATER)



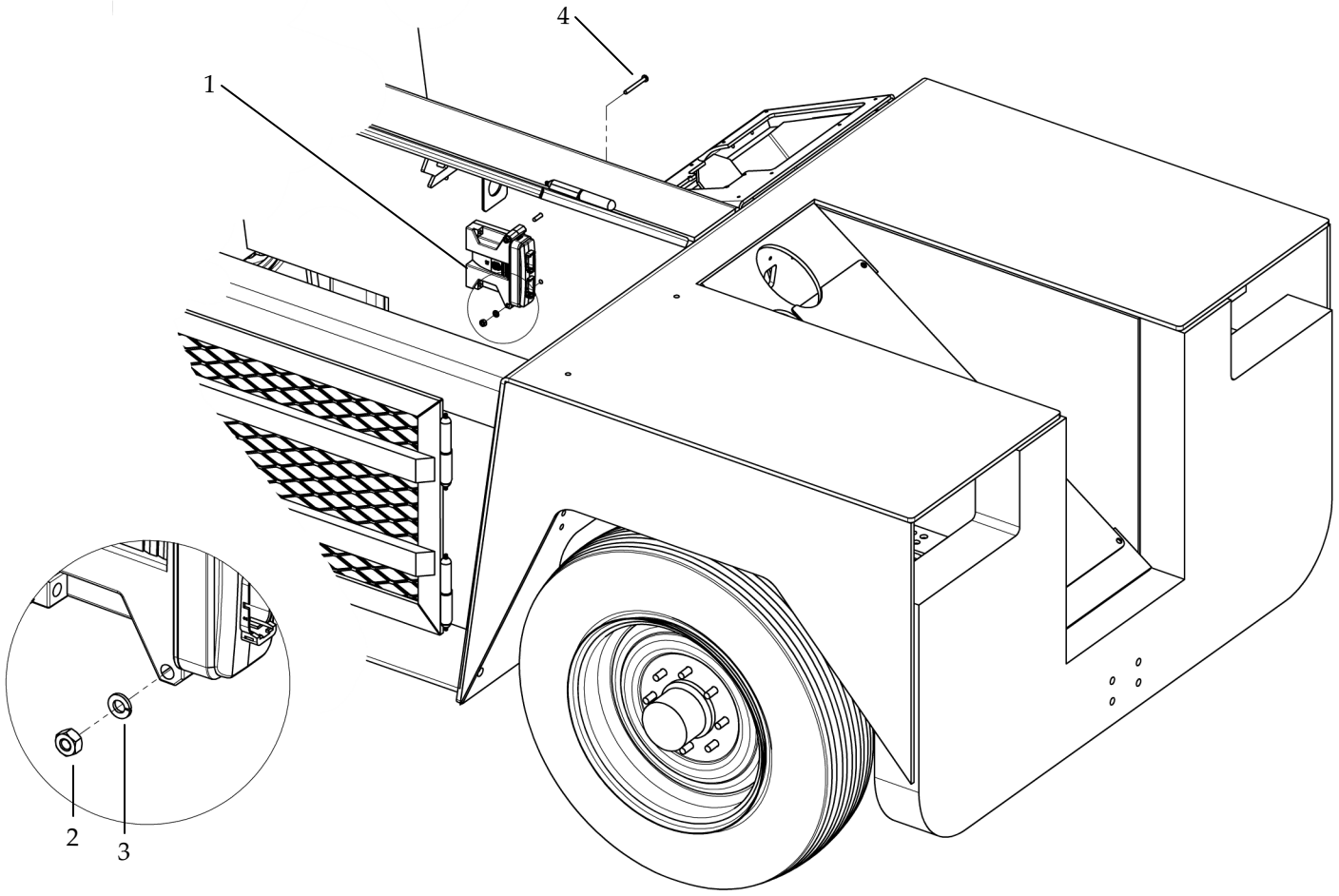
ELECTRICAL SCHEMATICS

VEHICLE WIRING HARNESS—YANMAR TIER III DIESEL (9/2014 AND LATER)



ELECTRICAL SCHEMATICS

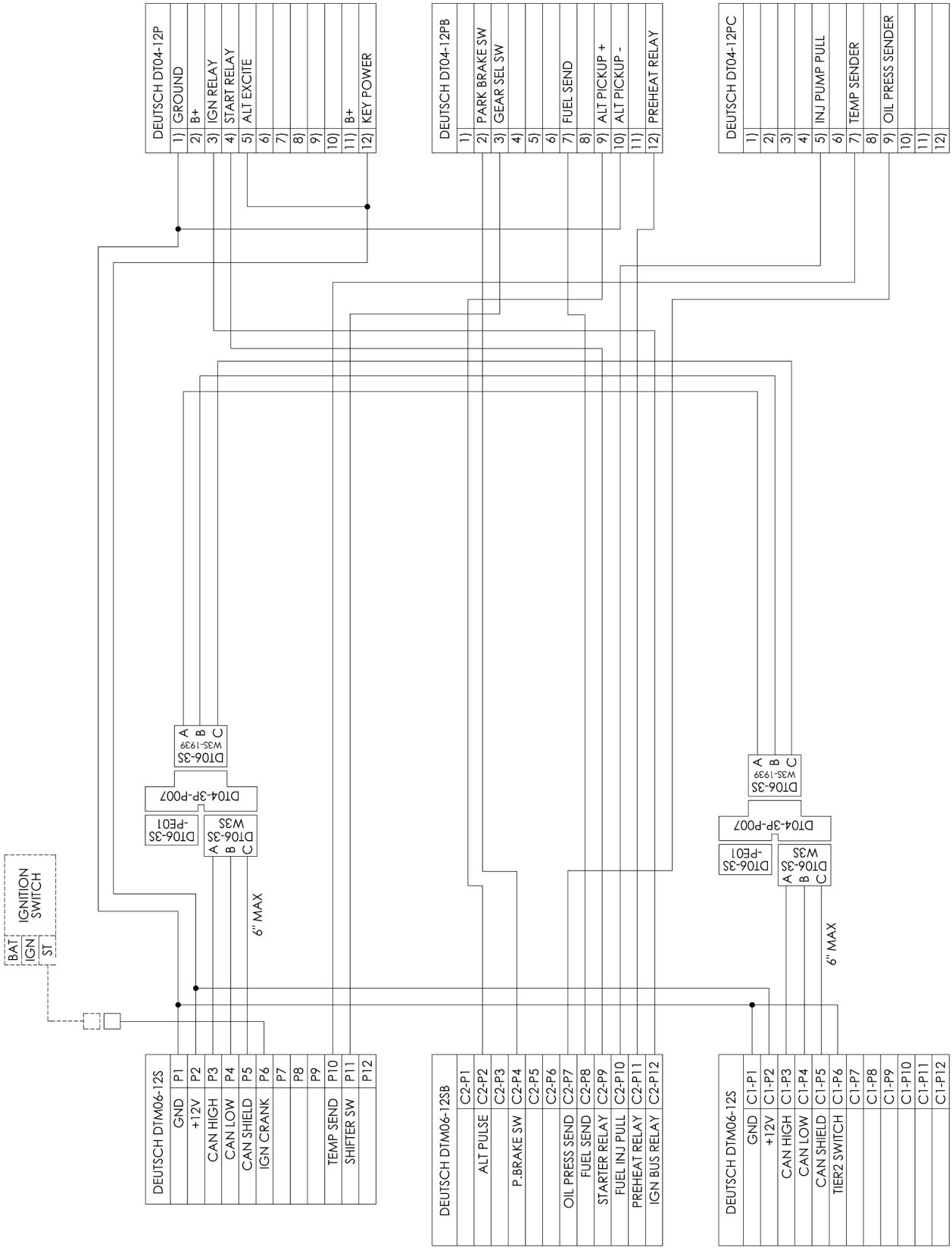
VEHICLE LOGIC CONTROLLER - SAUER DANFOSS DISPLAY/CONTROLLER



Item	Part Number	Qty	Description
1	A-TT8-00415-1	1	TT ELECTRONIC CONTROLLER
2	NPN	2	1/4 SPRING LOCK WASHER
3	NPN	2	1/4-20 HEX NUT
4	NPN	1	1/4-20 X 2 3/4 PAN HEAD MACHINE SCREW

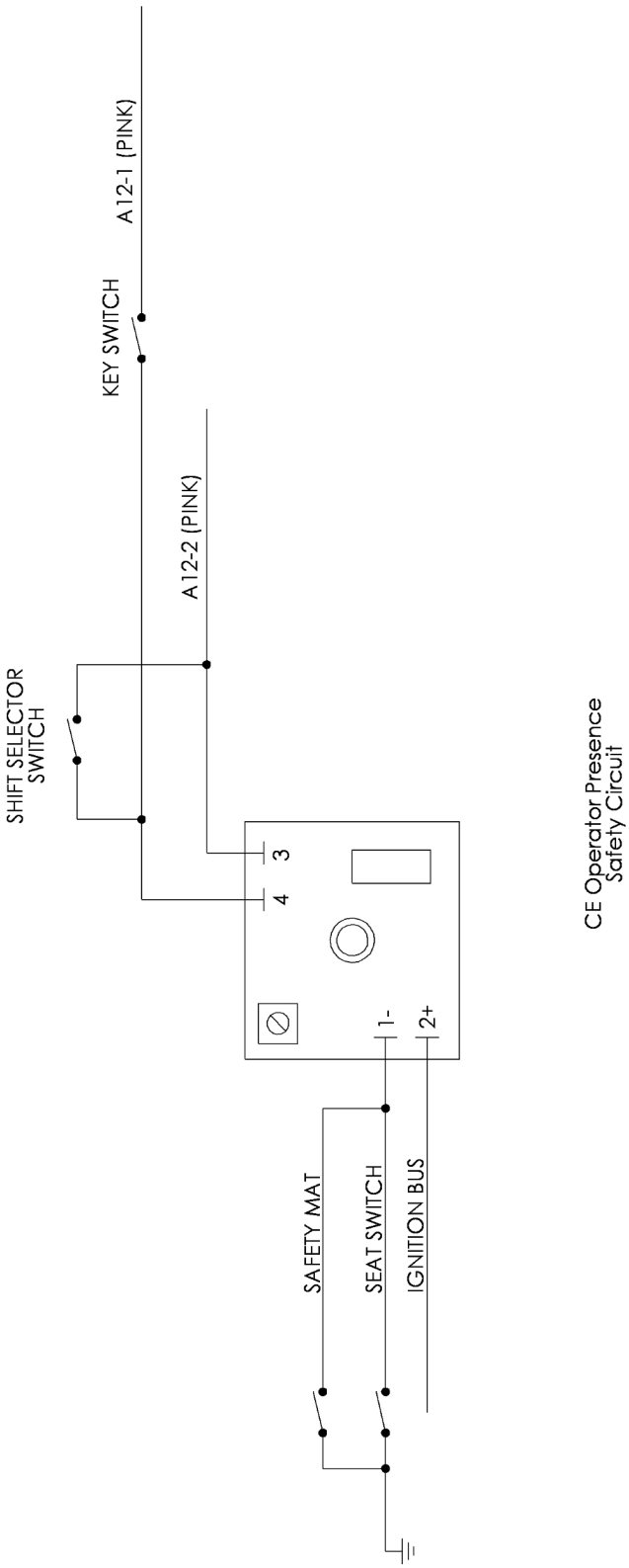
ELECTRICAL SCHEMATICS

VEHICLE LOGIC HARNESS—YANMAR TIER II DIESEL WITH SAUER DANFOSS CONTROLLER



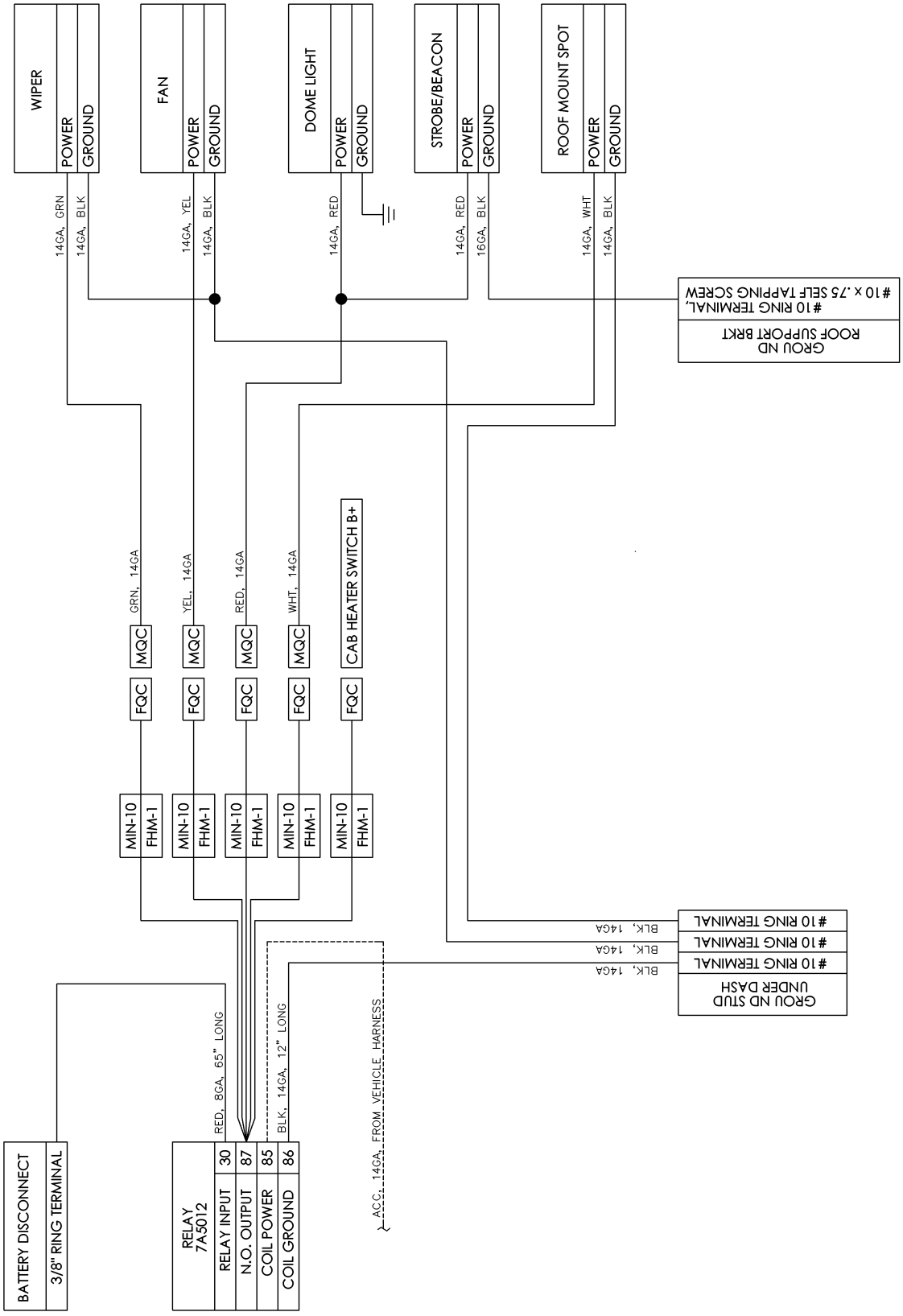
ELECTRICAL SCHEMATICS

CE OPTION –OPERATOR PRESENCE CIRCUIT WIRING DIAGRAM



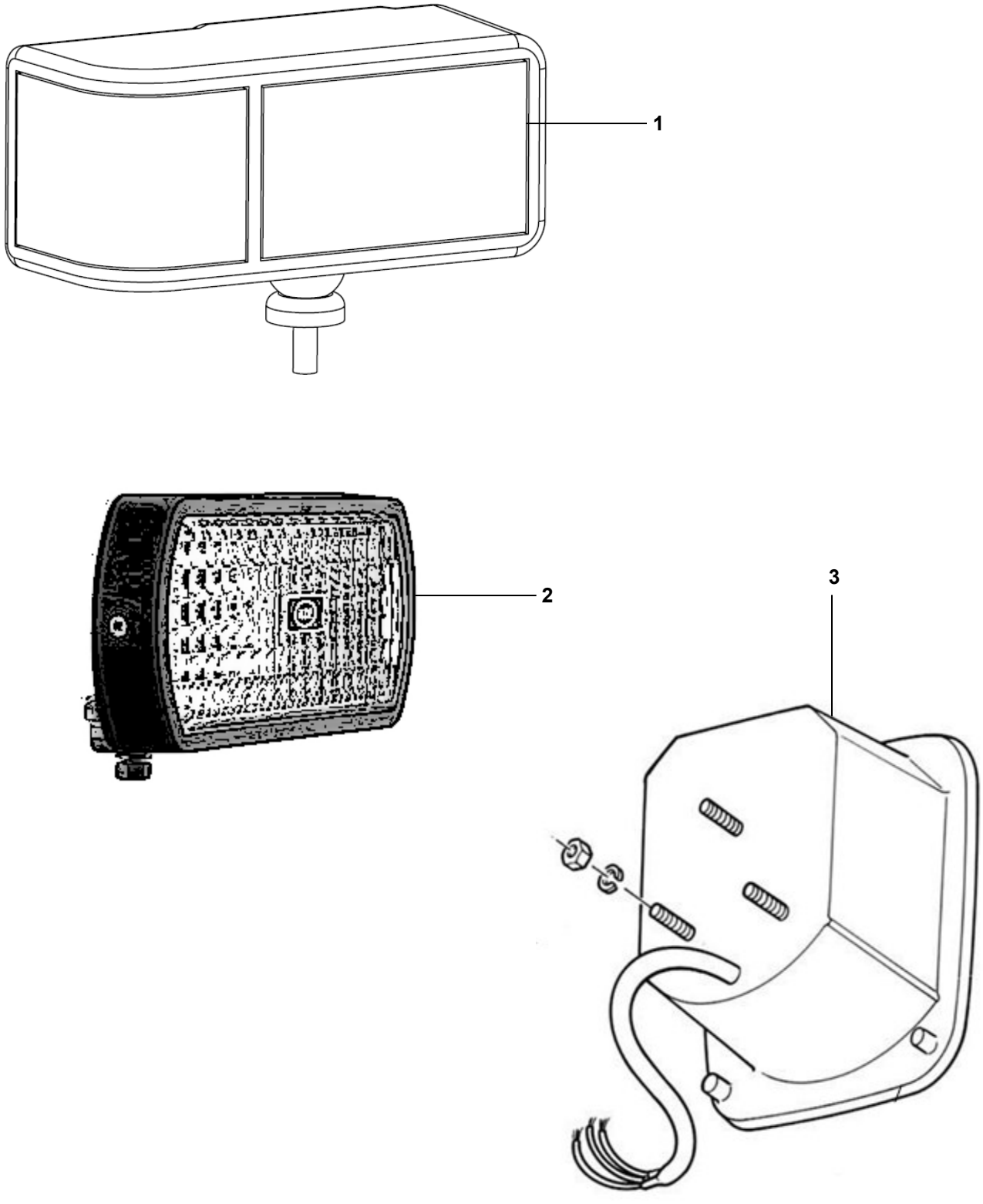
ELECTRICAL SCHEMATICS

CAB OPTION WIRING DIAGRAM



Lights & Electrical

HEADLIGHT, TAILLIGHT & SPOTLIGHT ASSEMBLY



LIGHTS & ELECTRICAL

HEADLIGHT, TAILLIGHT, SPOT LIGHT ASSEMBLY

Item	Part Number	Qty	Description
1	A-TT4-00291-6	2	HEADLIGHT W/ (OPTIONAL)TURN SIGNAL
2	A-TT4-00291-5	1	REAR FACING SPOT LIGHT (OPTION)
3	A-TT4-00292	2	TAILLIGHT

TAILLIGHT ASSEMBLY

Item	Part Number	Qty	Description
4	73-1912	2	TAIL LENS COVER
5	1157	2	REPLACEMENT BRAKE LIGHT BULB
6	1156	2	REPLACEMENT REVERSE LIGHT BULB

HEADLIGHT & SPOTLIGHT

Item	Part Number	Qty	Description
7	H6545	2	REPLACEMENT HEADLIGHT SEALED BEAM
8	1157	2	REPLACEMENT TURN SIGNAL BULB
9	H3	1	REPLACEMENT BULB, SPOTLIGHT

OPTIONS NOT SHOWN

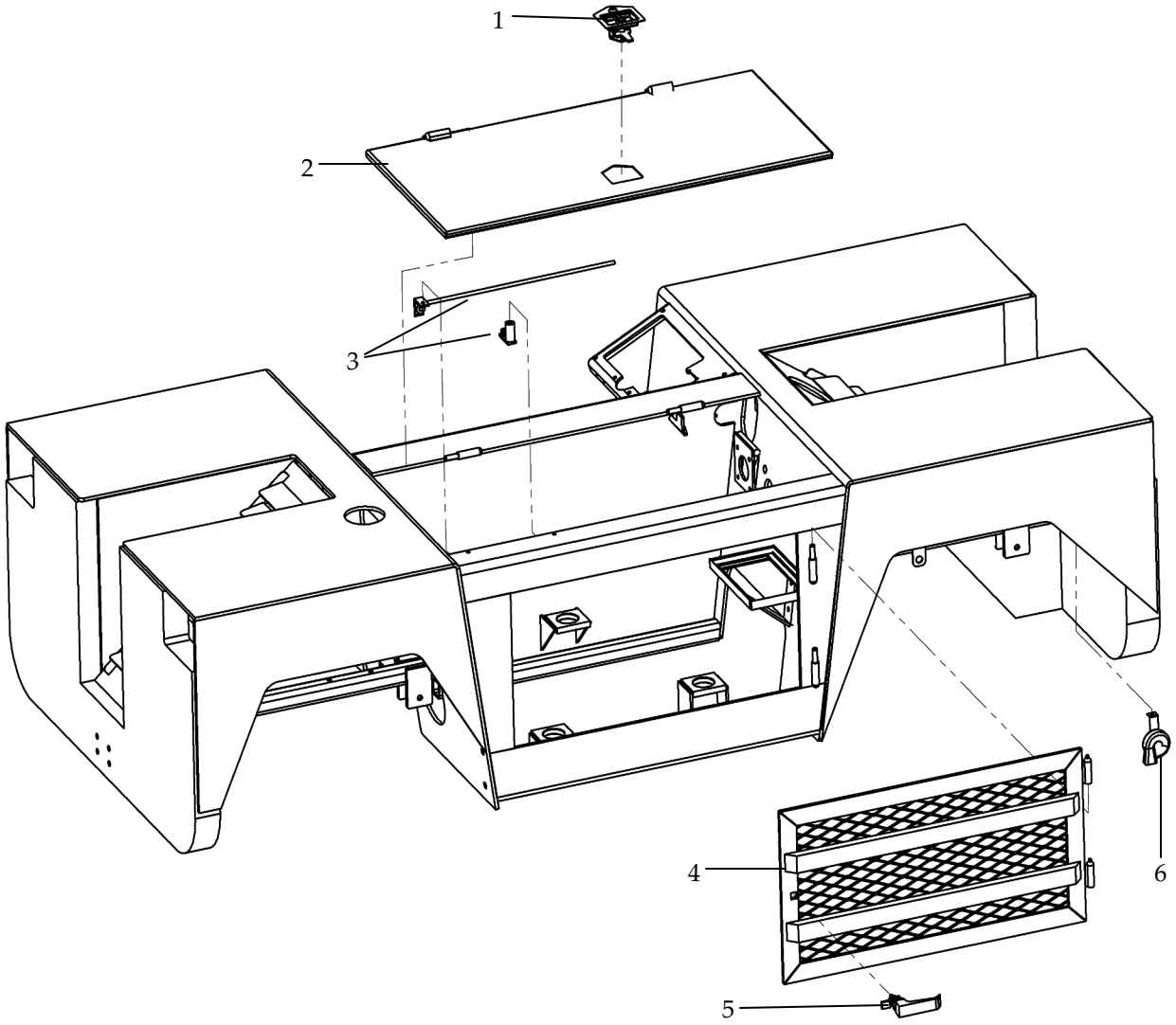
Item	Part Number	Qty	Description
10	AE-OPT-0076	2	ROOF MOUNTED TURN SIGNAL LAMP
11	AE-OPT-0099A	1	MASTER BATTERY DISCONNECT SWITCHPLOCKOUT LEVER KIT (OPTION)

BATTERY DISCONNECT & FUSES

Item	Part Number	Qty	Description
11	AE-OPT-0099	1	MASTER BATTERY DISCONNECT SWITCH
12	NPN	4	25 AMP ACG GLASS ROUND FUSE

Other Assembly

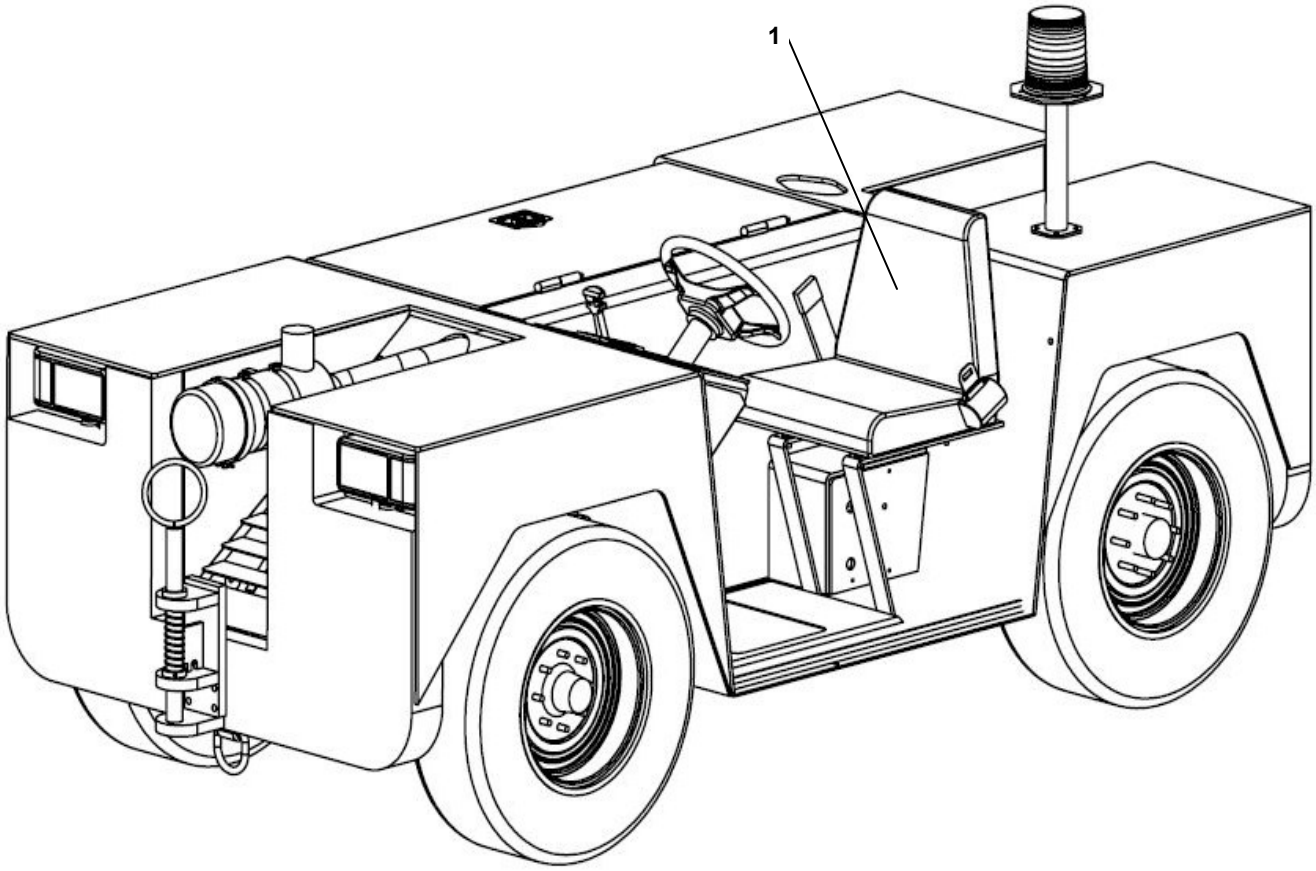
BODY ASSEMBLY



Item	Part Number	Qty	Description
1	C-TT4-0012-3	1	LOCKING T-HANDLE LATCH
2	C-TT4-0012	1	HOOD
3	NPN	1	HOOD PROP ASSEMBLY
4	D-TT4-0009-1	1	GRILL GUARD/ACCESS DOOR
5	62-10-603-20	1	LATCH FOR ACCESS DOOR
6	A-TT4-0052	1	HORN ASSEMBLY

Other Assembly

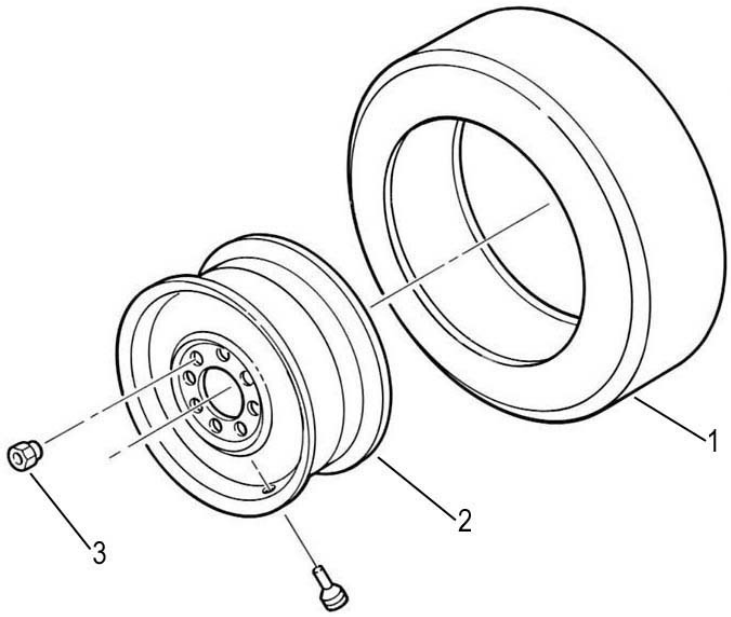
SEAT AND SEAT OPTIONS



Item	Part Number	Qty	Description
1	A-TT4-0048-1	1	STANDARD SEAT
2	AE-OPT-0055-A	1	STANDARD SEAT BOTTOM CUSHION
3	AE-OPT-0090	1	STANDARD SEAT W/ KILL SWITCH(OPTION)
3	A-TT10-00048	1	BENCH SEAT (DUAL REAR WHEEL MODELS)
4	AE-OPT-0055-B	1	BENCH SEAT BACK CUSHION
5	AE-OPT-0055-C	1	BENCH SEAT BOTTOM CUSHION
6	AE-OPT-0183	1	BENCH SEAT W/ KILL SWITCH (OPTION)
7	E10000	1	SEAT BELT

WHEELS & TIRES

WHEEL & TIRE ASSEMBLY



Tire options:

Item	Part Number	Qty	Description
1	A-TT4-00121	4	TIRE, 8.00X16.5, LOAD RANGE E
1	A-SATS-00121	4	TIRE, 8.75X16.5, LOAD RANGE E
1	A-TT8/2-00121-1	4	TIRE, LT225/75R16, LOAD RANGE E
1	A-TT8-00121	4	TIRE, LT225/75R16, LOAD RANGE E, MUD AND SNOW

Wheel options (must match to tire mounting diameter):

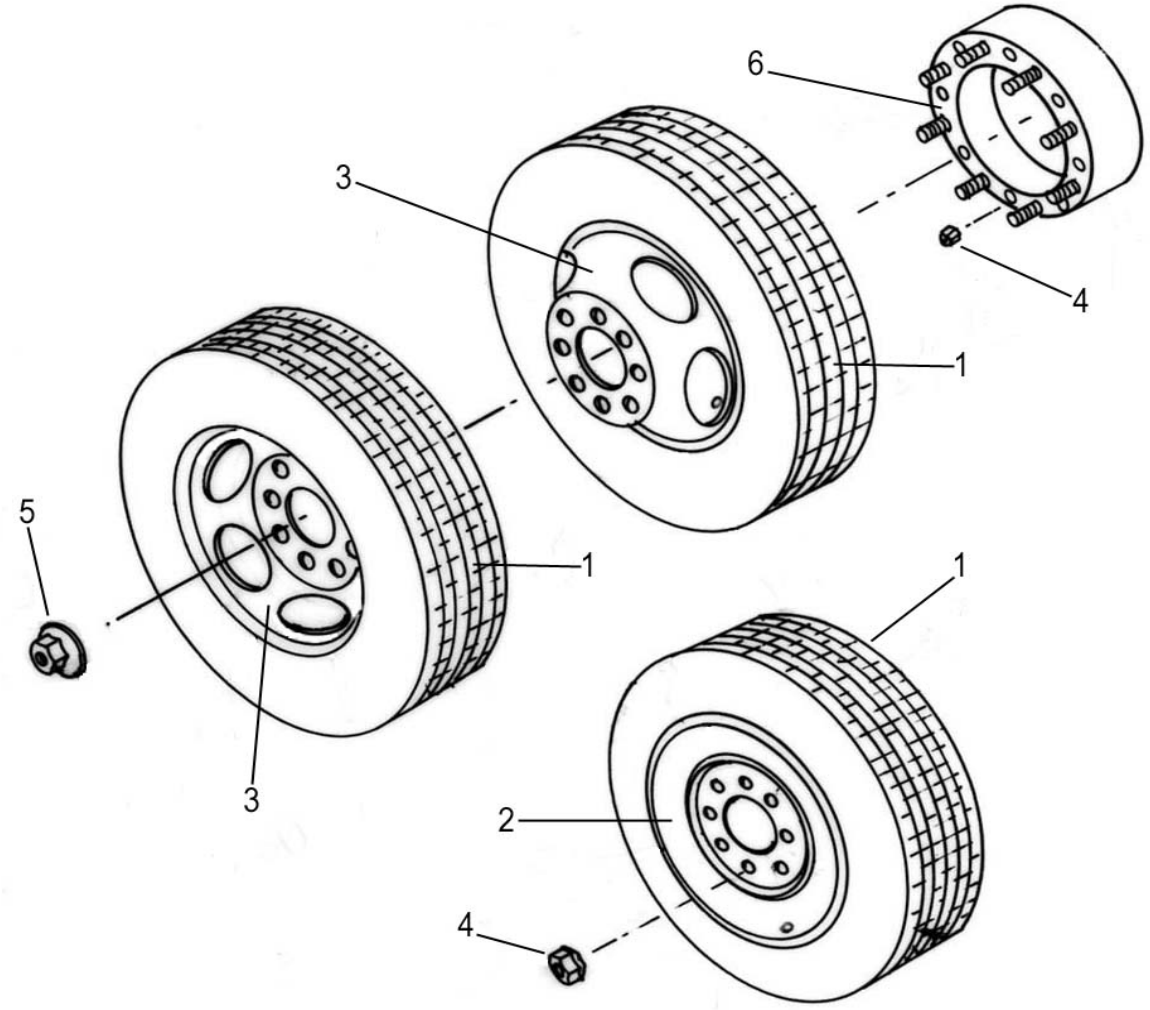
Item	Part Number	Qty	Description
2	A-TT4-00122	4	RIM, 16.5X6.75, BC 8-6.5
2	A-TT4-00122-1	4	RIM, 16X6, BC 8-6.5

Select the appropriate tire/wheel to match your tractor (refer to the sidewall text on your current tires). Any new tire or wheel must match what is already equipped on the tractor. DO NOT mix and match tire sizes. All four tires must be the same size.

3	A-TT4-00123	32	LUG NUT
-	610286	8	WHEEL STUD FRONT DANA 44
-	610348	8	WHEEL STUD REAR DANA 60
-	A-TT4-00124	4	VALVE STEM

WHEELS & TIRES

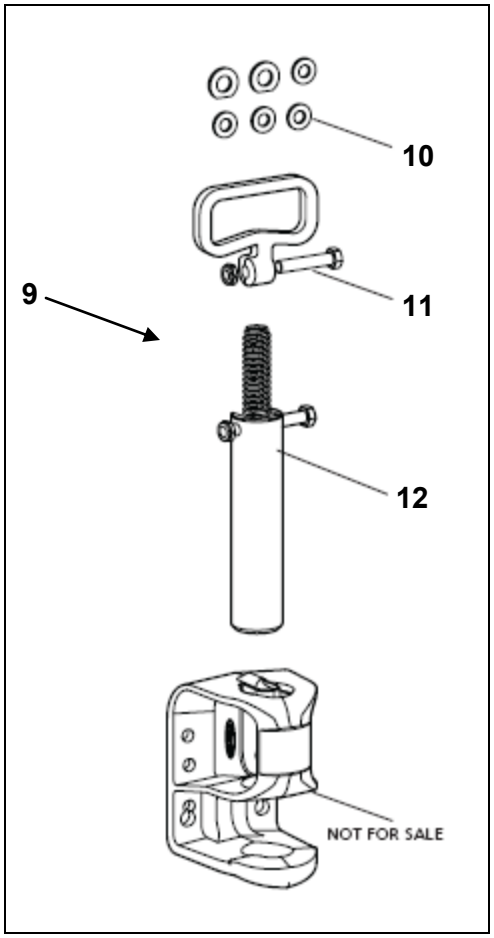
WHEEL & TIRE ASSEMBLY—DUAL REAR WHEEL MODELS

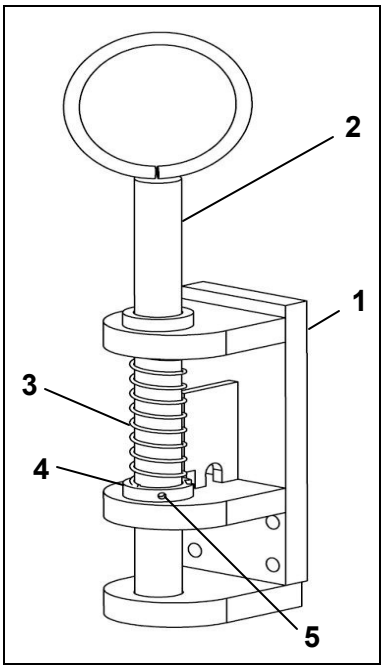


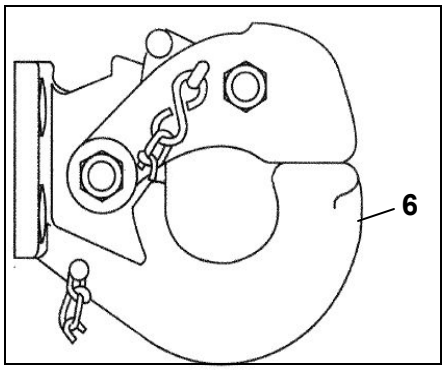
Item	Part Number	Qty	Description
1	A-TT8/2-00121-1	6	TIRE, LT225/75R16, LOAD RANGE E
2	A-TT4-00122-1	2	RIM, 16X6, BC 8-6.5 (FRONT AXLE)
3	A-TT8/2-00126	4	RIM, 16X6, BC 8-6.5 (REAR AXLE)
4	A-TT4-00123	32	LUG NUT
5	A-TT8/2-00129	16	WHEEL ADAPTER LUG NUT
6	A-TT8/2-00127	2	WHEEL ADAPTER

OPTIONS

HITCH OPTIONS





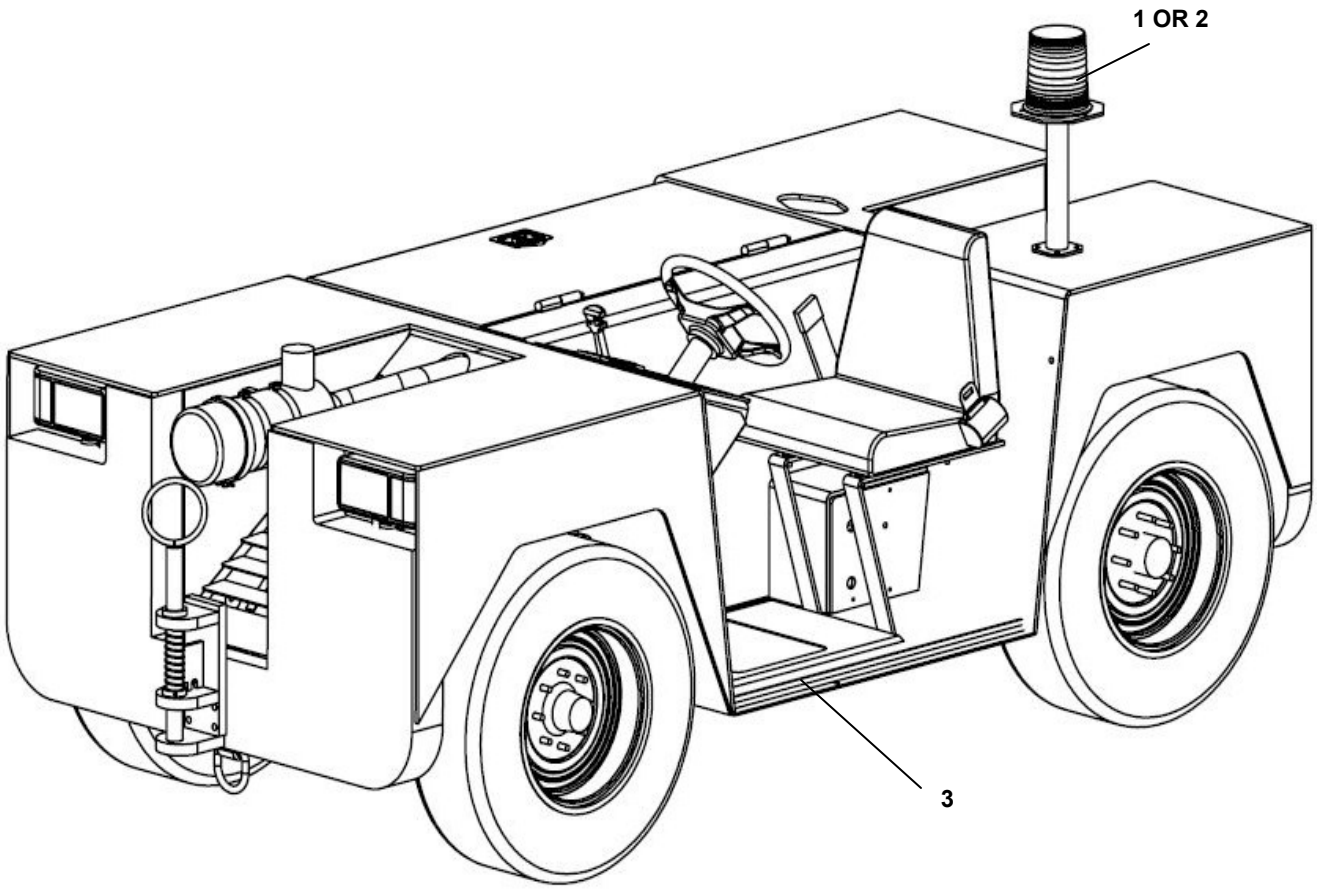


Item	Part Number	Qty	Description
1	AE-OPT-0033	1	E-HITCH 1 1/2 " PIN-COMPLETE ASSEMBLY
2	B-TT3-0008 DET2	1	E-HITCH GUIDE 1 1/2" GUIDE PIN WITH RING
3	B-TT3-0008A	1	E-HITCH SPRING
4	B-TT3-0008 DET5	1	LOCKING COLLAR
5	B-TT3-0008B	1	ROLL PIN
6	AE-OPT-0028	1	PINTLE HOOK
7	AE-OPT-0026	1	AIRLINE HITCH 3" PIN WITH CABLE(NOT SHOWN)
8	AE-OPT-0093	1	AIRLINE HITCH 2 3/8" PIN (NOT SHOWN)
9	AE-OPT-0033-1	1	HOLLAND HITCH
10	RK-11438	1	WASHER SET HOLLAND HITCH
11	RK-11440	1	HANDLE KIT HOLLAND HITCH
12	RK-11439	1	PIN & SPRING KIT HOLLAND HITCH

* The above are standard hitch options. Please call for special hitch options information

OPTIONS

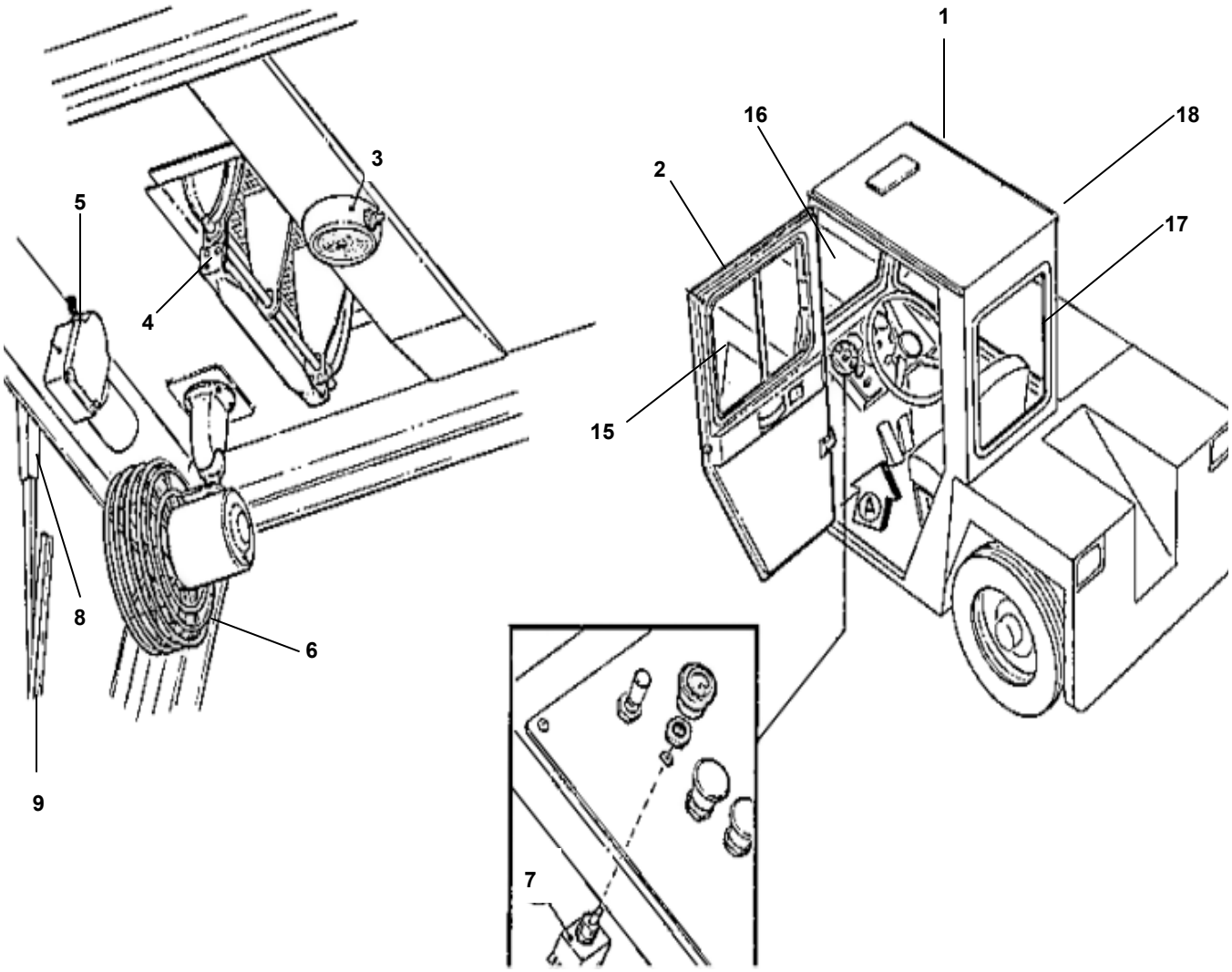
STROBE, BEACON & FLOOR MAT OPTIONS



Item	Part Number	Qty	Description
1	AE-OPT-0002	1	AMBER ROTATING BEACON
1A	R5024BH	1	REPLACEMENT BULB 24VDC
1B	R5012BH	1	REPLACEMENT BULB 12VDC
2	AE-OPT-0007	1	STROBE
2A	129	1	REPLACEMENT BULB FOR STROBE
2B	AE-OPT-0009	1	1/2 COVER FOR STROBE
3	A-TT4-00450	1	BASIC FLOOR MAT(NO SENSOR)
3A	A-TT4-00450-1	1	OPERATOR SWITCH MAT (WITH SENSOR)
3B	A-TT10-00451	1	SWITCHMAT DELAY TIMER

OPTIONS

CAB OPTION



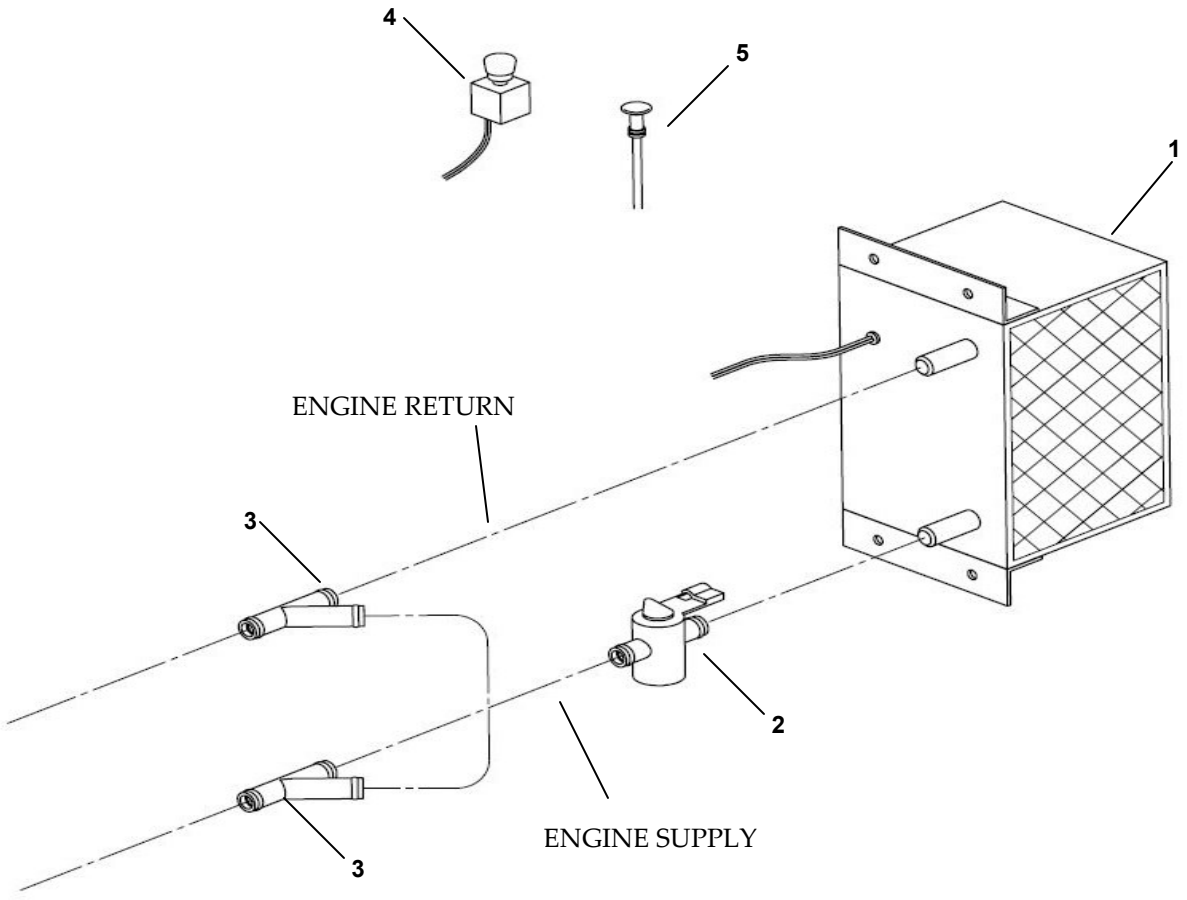
OPTIONS

CAB OPTION

Item	Part Number	Qty	Description
1	AE-OPT-0004	1	CAB ASSEMBLY COMPLETE
1	AE-OPT-0003	1	CAB ASSEMBLY COMPLETE (DUAL REAR WHEEL MODEL)
2	40502	1	DOOR ASSEMBLY COMPLETE
3	A-TT4-00553	1	DOME LITE
4	A-TT4-00554	1	ROOF VENT
5	A-TT4-00555	1	WIPER MOTOR
6	A-TT4-00556	1	DEFROST FAN
7	A-TT4-00609	1	HEATER FAN SWITCH
8	991013	1	WIPER ARM
9	990994	1	WIPER BLADE
10	40516	3	DOOR HINGE(NOT SHOWN)
11	40515	1	STRIKER PLATE(NOT SHOWN)
12	48717	1	OUTSIDE DOOR HANDLE(NOT SHOWN)
13	990237	1	INSIDE DOOR HANDLE(NOT SHOWN)
14	991529	2	DOOR STRAP(NS)
15	992518	1	DOOR WINDOW
16	992424	1	WINDSHEILD
16	992520	1	WINDSHEILD (DUAL REAR WHEEL MODEL)
17	991867	1	REAR WINDOW
17	992521	1	REAR WINDOW (DUAL REAR WHEEL
18	991809	1	SLIDING WINDOW
19	992519	1	FRONT QUARTER WINDOW
20	T1003	1	DOME LITE LIGHT BULB(NOT SHOWN)

OPTIONS

CAB HEATER



Item	Part Number	Qty	Description
1	A-TT4-00601	1	HEATER ASSEMBLY
2	A-TT4-00607D	1	CONTROL VALVE
3	02220200A	2	Y CONNECTOR
4	A-TT4-00609	1	HEATER FAN SWITCH
5	A-TT4-00608	1	TEMPERATURE CONTROL CABLE
6	NPN	2	5/8 HEATER HOSE (NOT SHOWN)

OPTIONS

OTHER OPTIONS LISTED NOT SHOWN

1	AE-OPT-0001	1	BACK UP ALARM
2	AE-OPT-0086	1	INTERCOM JACK
3	AE-OPT-0094	1	12V ACCESSORY OUTLET
4	AE-OPT-0200	1	DESERT PACKAGE-INCLUDING AE-OPT-0201 SY-KLONE PRE FILTER & X002351 DIESEL AIR FLOW SERVICE INDICATOR

MAINTENANCE

DAILY OPERATOR RESPONSIBILITIES

Proper Fluid Checks

Engine Oil

Check engine oil with the unit on a level surface, the key in the "OFF" position, the shifter position in "PARK" and parking brake applied. Open side access door. Remove dipstick from crankcase, wipe it with a cloth. Insert it fully and take out it gently again. Check the oil level by the marks on the dipstick. The oil level must be between the "Max" level and the "Min" level. DO NOT OVERFILL!

Coolant

DO NOT remove recovery tank cap or check coolant level while engine is hot! With engine cool, the key in the "OFF" position, the shifter position in "PARK" and the parking brake applied, open hood, set hood prop and look at left side of recovery tank. The reservoir tank is translucent, so the fluid is readily visible without removing the cap. Fluid level should be at the "Cold fill level".

Transmission Fluid

With unit in park and parking brake set in the "ON" position, start engine. Open side access door. Remove dipstick from transmission case, wipe it with a cloth. Insert it fully and take it out gently again. Check the fluid level by the marks on the dipstick. The transmission fluid level must be between the "Max" level and the "Min" level on the dipstick. DO NOT OVERFILL.

Brake Fluid

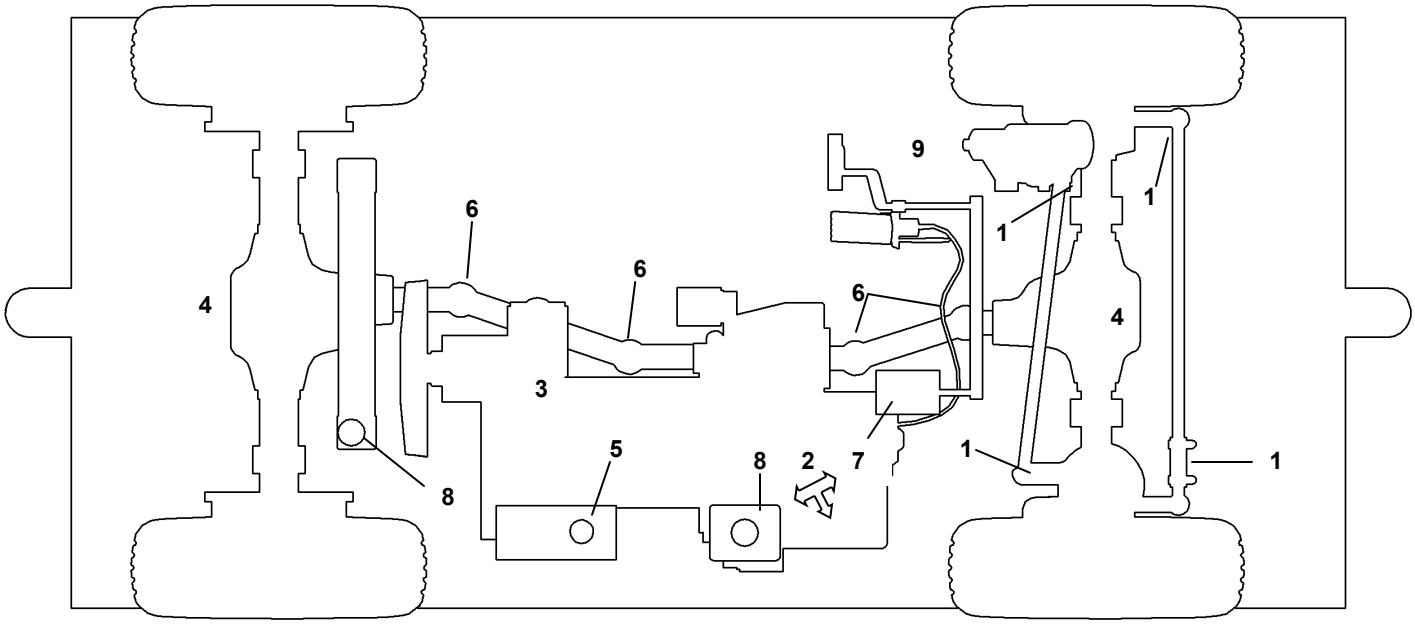
Check brake fluid with the unit on a level surface, the key in the "OFF" position, the shifter position in "PARK" and parking brake applied. Open hood, set hood prop and locate master cylinder reservoir. Remove spring clips and take off lid. Brake fluid level should be at the top of reservoir.

Power Steering Fluid

Check power steering fluid with key in "OFF" position, the shifter position in "PARK" and the parking brake applied. Open hood, set hood prop remove cap from power steering reservoir. Fluid level should be between the arrows on the indicator stick. DO NOT OVERFILL.

MAINTENANCE

LUBRICATION CHART



Item	Identification	Service	Lubricant
1	STEERING LINKAGE	LUBE	EP MULTIPURPOSE GREASE
2	TRANSMISSION OIL	CHECK	DEXTRON III TYPE TRANSMISSION FLUID
3	ENGINE OIL	CHANGE	15W40 CD OE/HDO (MIL-L-2104)
4	DRIVE AXLES	CHECK	80-90 GEAR OIL (MIL-L-2105)
5	POWER STEERING PUMP	CHECK	AUTOMOTIVE POWER STEERING FLUID
6	DRIVE SHAFT	LUBE	EP MULTIPURPOSE GREASE
7	BRAKE MASTER CYLINDER	CHECK	DOT 3 BRAKE FLUID
8	ENGINE COOLANT*	CHECK	ETHYLENE GLYCOL/ WATER (50/50 MIX) MIL-A-46153
9	ACCELERATOR CABLE AND SHIFT CABLE	LUBE	**SUMMER MONTHS WD40 PENETRATING OIL WINTER MONTHS ANTI FREEZE

*CHECK WHEN ENGINE IS AT OPERATING TEMPERATURE
**IT IS RECOMMENDED BY MANUFACTURER TO PROLONG THE LIFE OF YOUR ACCELERATOR CABLE THAT THE ABOVE LUBRICATION BE FOLLOWED

Maintenance

Recommended Filter Guide

Part Number	Filter Description
129150-35153	Oil Filter
119802-55801	Fuel Filter
129242-55730	Fuel/Water Separator Filter
Fleetguard FS20000	Lubricity Filter
Donaldson P601437	Air Filter
Wix 58705	Transmission Filter and Gasket
SF-6520	Power Steering Filter

*See Steering Fluid and Fill Procedure.

Maintenance

Preventive Maintenance Schedule

	Preventive Maintenance Item Any items found to be deficient during the preventive maintenance review should be repaired or replaced. All fluids found low should be topped off.	Daily	First 50 hours	Every 250 hours	Every 500 hours	Every 1000 hours or annually †
	Perform daily pre-operation checklist (see Operations Manual)	X				
Engine Oil	Change engine oil and replace filter		X	X		
Transmission Oil	Change transmission fluid and replace filter					X
Steering	Change power steering fluid and replace filter					X
	Inspect steering linkage and grease ball joints					X
	Inspect and grease front axle					X
Cooling System	Check coolant level			X		
	Flush coolant					X
	Check and clean radiator fins			X		
	Inspect coolant hoses			X		
	Adjust tension of belts			X		
	Inspect belts			X		
Fuel System	Inspect fuel system for leaks			X		
	Replace fuel filter				X	
	Drain fuel/water separator	X				
	Clean fuel/water separator			X		
	Replace lubricity filter (if equipped)			X		
Air Cleaner	Inspect/replace air cleaner element			X		
Engine Compartment	Lap intake/exhaust valve seats (Contact engine service provider)					X
	Adjust intake/exhaust valve clearance (Contact engine service provider)					X
	Inspect and clean crankcase breather					X
	Inspect, clean, and check injection nozzles					X
Electrical	Inspect electrical wires and connections					X
	Inspect battery cables					X
Throttle	Inspect throttle cable assembly (Tier II only)					X
Brake System	Check brake fluid level			X		
	Inspect/replace front brake pads/rotors					X
	Inspect/replace rear drum brake shoes/linings					X
	Inspect brake lines and hoses					X
Suspension	Re-torque suspension u-bolts, 80 ft-lbs		X			
	Inspect axle shaft u-joints					X
	Grease driveshaft u-joints					X
	Re-torque spindle nuts, 40 ft-lbs					X
Tires	Rotate tires				X	
	Re-torque lug nuts, 150 ft-lbs					X

† Whichever time period is shorter.

MAINTENANCE

TT4-8 DIESEL SPECIFICATIONS & CAPACITIES

MODEL #	YANMAR 4TNV98
DESCRIPTION:	Vertical In-line diesel, 3.3 Liter, four cylinder, direct injection engine

# OF CYLINDERS	4 IN-LINE
BORE & STROKE INCHES (mm)	3.858 X 4.331 in (98 X 112 mm)
DISPLACEMENT, CUBIC INCHES (L)	202, 502 cu in (3.319L)
COMPRESSION RATIO	171 (2.8)
FUEL	No 2 DIESEL
ALTERNATOR	55 AMP, 12 VOLT, NEG GROUND
ENGINE WEIGHT FULLY DRESSED LB (KG) (PROX)	557 (253)

BATTERY

Group 65 , 860 Cold Cranking Amps automotive battery

ENGINE CRANKCASE CAPACITIES

ENGINE	U.S. QUARTS	IMPERIAL QUARTS	LITRES
3.3 L DIESEL	7.5	6.3	7.1
OIL TYPE SAE 15W40 *ONLY USE OIL THAT IS RATED FOR A DIESEL ENGINE			

FUEL TANK REFILL CAPACITIES

U.S. GALLONS	IMPERIAL GALLONS	LITERS
12.5	10.4225	47.375

USA -SAE (SOCIETY OF AUTOMOTIVE ENGINEERS) NO. 2-D, NO. 1-D, ASTM.D975-94

JAPAN– JIS K2204 GRADE NO 2

EUROPEAN UINION– EN590:96

INTERNATIONAL ISO 8217 DMX

UNITED KINGDOM– BS 2869-AL OR A2

KOREA– KSM-2610

CHINA– GB252

*Please refer to Yanmar Engine Instruction Manual for further information

MAINTENANCE

TT4-8 DIESEL SPECIFICATIONS & CAPACITIES

TRANSMISSION REFILL CAPACITIES

ENGINE	U.S. PINTS	IMPERIAL PINTS	LITRES
3.3 L DIESEL	8.00	6.60	3.80
* USE DEXTRON III TYPE TRANSMISSION FLUID OR EQUIVALENT			
**ADD 9 PINTS, 7.5 IMPERIAL PINTS OR 4.25 LITERS IF TORQUE CONVERTOR HAS BEEN DRAINED			

ENGINE COOLING SYSTEM REFILL CAPACITIES

ENGINE	U.S. QUARTS	IMPERIAL QUARTS	LITRES
3.3 L DIESEL	16.00	13.30	15.10
* A 50/50 MIXTURE OF GLYCOL AND CLEAN WATER			

BRAKE SYSTEM

The brake system is power assisted hydraulic, front disc type and rear drum type. USE DOT 3 BRAKE FLUID.

STEERING FLUID AND FILL PROCEDURE

The steering system is power assisted hydrostatic type. Use Either Power Steering Fluid Equivalent Soec For GM 9985010, CHRYSLER MS-5931 OR FORD ESW-M2C128-C and D **OR** 10W Mineral Oil.

If the system has been drained for repair or scheduled maintenance, fill steering reservoir to within 2" of maximum fill level. With the key in the OFF position, turn the engine over for 30 seconds using a remote start device to ensure safety. While engaging the remote starter, turn the steering wheel from stop to stop and apply the service brakes. After 30 seconds of engagement, the fluid level will drop, allowing for refilling. Repeat this process for a total of three cycles. Top off power steering fluid to within 2" of top of reservoir or to the center of the sight glass (if applicable). Return to service.

AXLE REFILL CAPACITIES

AXLE	U.S. PINTS	IMPERIAL PINTS	LITRES
FRONT STEER – NON DRIVE	N/A	N/A	N/A
FRONT DRIVE AXLE	5.20	4.37	2.48
REAR DRIVE AXLE	8.50	7.00	3.75
* SERVICE REFILL CAPACITIES ARE DETERMINED BY FILLING TO THE BOTTOM OF THE FILLER HOLE			
**USE 80W90 HYPOID GEAR LUBRICANT			

MAINTENANCE

YANMAR ENGINE TROUBLE SHOOTING		
SYMPTOM	**PROBABLE CAUSE**	**ACTION**
Indicator Turns On-Engine Running		
Engine Coolant Indicator	Low engine Coolant	Add engine coolant
	Dirty radiator fins	Clean the radiator fins
	Engine coolant leaking	See authorized Yanmar industrial engine dealer or distributor
	V-belt loose or damaged	Adjust V-belt or replace
	Contaminated engine coolant	See authorized Yanmar industrial engine dealer or distributor
	Faulty engine coolant pump	
Battery Indicator	V-belt loose or damaged	Adjust V-belt or replace
	Battery failure	Check battery condition
	Faulty alternator	See authorized Yanmar industrial engine dealer or distributor
Indicator Does Not Turn ON-Key Switch is Turned to ON(OFF-ON) Engine Not Running		
	Faulty electrical wiring or faulty indicator	See authorized Yanmar industrial engine dealer or distributor
Indicator Stays On-Key Switch is Turned from Start to On(START-ON)-Engine Not Running		
Battery Indicator stays ON	Faulty alternator	See authorized Yanmar industrial engine dealer or distributor
Engine oil pressure indicator stays ON	Faulty engine oil pressure switch	see authorized Yanmar industrial engine dealer
	No or low level of engine oil	Check and adjust oil level as necessary
	Clogged engine oil filler	Replace engine oil filter

MAINTENANCE

YANMAR ENGINE TROUBLE SHOOTING		
SYMPTOM	**PROBABLE CAUSE**	**ACTION**
Engine Does Not Start		
Starter motor operates but engine does not start	No diesel fuel	Refuel and prime fuel system
	Air in fuel system	Prime fuel system
	Improper diesel fuel	Replace with recommended diesel fuel
	Clogged fuel filter	Replace fuel filter
	Poor fuel injection	See authorized Yanmar industrial engine dealer or distributor
	Compressed air leakage from intake/exhaust valves	
	Faulty engine stop solenoid	
Starter motor does not operate or rotates too slowly(engine can be turned manually)	Battery needs charging	Check electrolyte, recharge
	Faulty starter switch	Clean terminals, retighten
	Faulty starter motor	See authorized Yanmar industrial engine dealer or distributor
Engine cannot be manually turned	Inner parts seized or damaged	
White or Black Exhaust Smoke		
Black exhaust smoke	Engine overload	Reduce load
	Clogged air cleaner element	Clean element or replace
	Improper diesel fuel	Replace with recommended diesel fuel
	Faulty spraying of fuel injection	See authorized Yanmar industrial engine dealer or distributor
	Exessive intake/exhaust valve clearance	
White exhaust smoke	Improper diesel fuel	Replace with recommended diesel fuel
	Faulty spray pattern of fuel injection	See authorized Yanmar industrial engine dealer or distributor
	Fuel injection timing delay	
	Engine burning oil	

MAINTENANCE

Recommended TT 4-12 Tool List

1) Screwdrivers
    a. Philips #1, #2 4" long
    b. Slotted 1/8 X 4, 3/16 X 4, 1/4 X 6, 5/16 X 8
2) Torx
    a. T25, T27, T30, T40
3) Nut Drivers
    a. 1/4", 5/16", 3/8"
4) Allen Wrench
    a. 7/64, 1/8, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8
5) Adjustable Wrench
    8" & 10"
6) Metric Combination Wrenches
    a. 8MM, 10MM, 12MM, 13MM, 14MM, 15MM, 16MM, 17MM, 18MM,19MM, 20MM, 21MM
7) Standard Combination Wrenches
    a. 1/4, 5/16, 11/32, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16,
    1 1/8
8) 3/8 Drive Deep Standard Sockets
    a. 3/8, 7/16, 1/2, 9/16
9) 1/2 Drive Deep Standard Sockets
    9/16, 3/4, 15/16, 1 1/8
10) 3/8 Drive Standard Sockets
    5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4
11) 3/8 Drive Metric Sockets
    7, 8, 9, 10, 11, 12, 13, 14, 15, 16
12) 1/2 Drive Metric Sockets
    16, 17, 18, 19, 20, 21, 22, 23, 24
13) 1/2 Drive Standard Sockets
    9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/8

Maintenance

14) Swivel Universal
    1/2, 3/8 Drives
15) Extension 3/8 Drive
    3, 6, 10 inch
16) Extension ½ Drive
    3, 6, 10 inch
17) OTC 7157
18) OTC 7080
19) OTC 1902
20) 12 volt test light
21) Torque Wrench
    25-250 Foot Pounds
22) 7 inch diagonal pliers
23) 8 inch long nose pliers
24) 6 3/4 inch slip joint pliers
25) 9 1/2 inch arc joint pliers
26) Multimeter
27) Pickle Fork
28) Snap wring pliers
29) Ball Pien Hammer 32 oz
30) Oil Filter wrench
    2 3/4 inch to 3 3/4 inch in diameter
31) Grease gun with 20″ flex hose
32) Oil pan drain
33) Funnel

Maintenance

TIPS FOR INCREASED ALL WEATHER TRACTION DURING AIRCRAFT PUSHBACK

1.Reduce air pressure in pneumatic tires from 60 PSI to as low as 25 PSI. (**restore air pressure to 60 psi as soon as weather emergency ends).

2.When pushing with All Wheel Drive tractors, make sure the tow bar is level or slightly downhill toward tractor.

3.When towing with Rear Wheel Drive-raise hitch height.

4.When pushing with Rear Wheel Drive-lower hitch height.

Note: These strategies(2, 3 and 4) maximize all weather traction.

5.When pushing aircraft on ice or icy snow with All Wheel Drive, a wheel may loose traction (wheel spin). To stop front wheel spin, apply some service brake gradually with left foot until wheel spin stops and hold, while continuing the pushback. Coordinate the left foot service brake pressure and the right foot accelerator, to maintain a smooth pushback. To stop rear wheel spin, apply parking brake with lever until it stops while continuing the pushback.

6.On ice or snow use chains or cables. If the use of chains is prohibited, there are traction cables that serve the same function as chains but are much easier to mount and are very kind in terms of abrasion to all surfaces.

7.Keep fuel tank full, as much as possible.

8.Consult with Eagle Tugs factory for additional assistance.

Maintenance

FRONT END ALIGNMENT PROCEDURE

Find center line of tire front and back

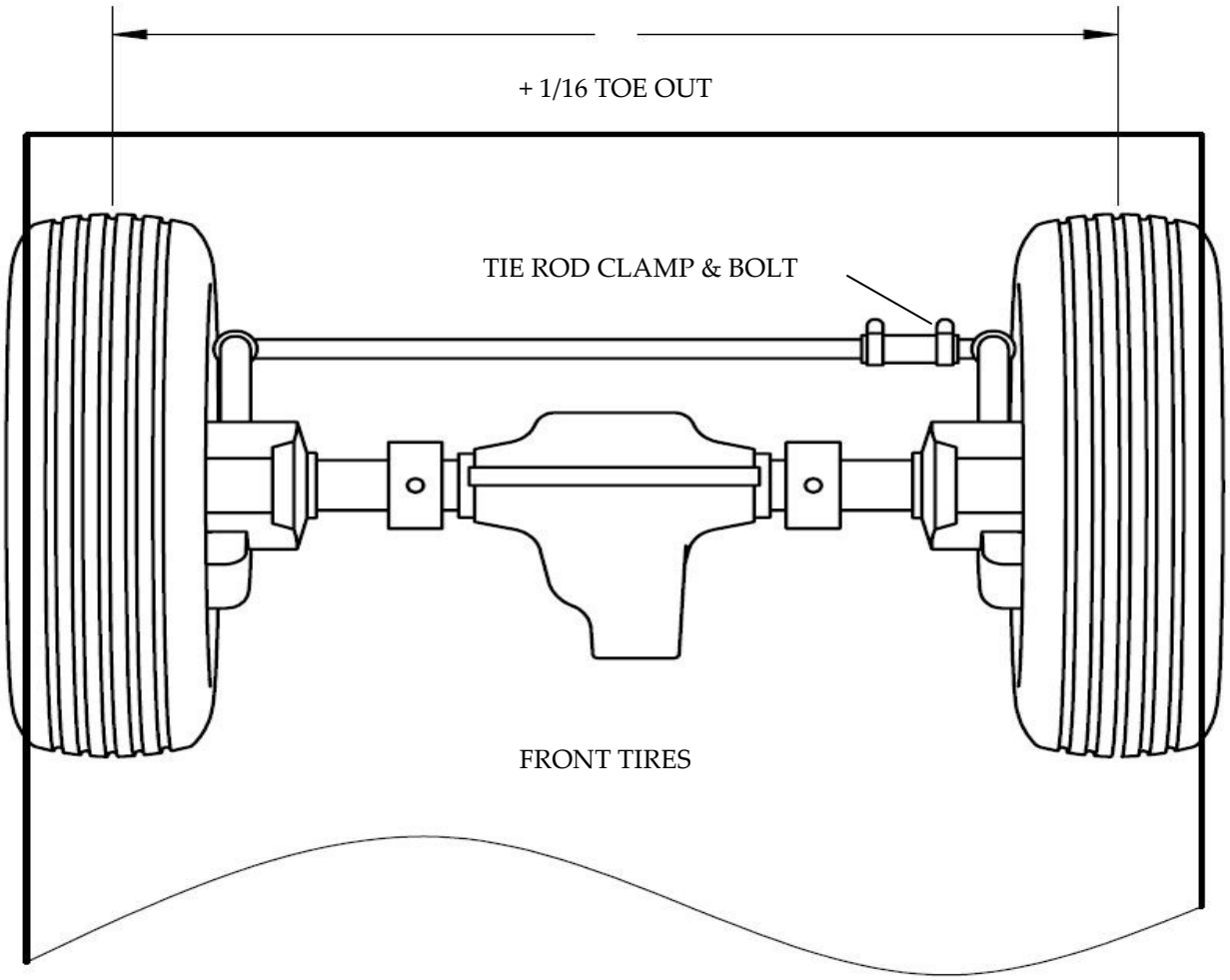
Check with tape measure to see difference

The front should be 1/16 inch more that the rear

1/16 inch toe out, if less or greater loosen the two bolts on the tie rod clamp

Turn clamp in or out to achieve desired setting—1/16 in toe out

Retighten two bolts on the tie rod clamp



Maintenance

DANA FRONT AXLE MAINTENANCE

Dana 44 Front Axle Disassembly Procedure

Please refer to the steps below for proper adjustment procedure.

Note: Please refer to the attached picture of the Dana 44 axle for number reference.

Disassembly Procedure:

Step 1: Lift the tug so that both of the front tires are off the ground and make sure the unit is secured properly.

Step 2: Remove both front wheels.

Step 3: Remove both front calipers leaving the brake hose intact.

Step 4: Remove both of the hub center caps.

Step 5: Use lock ring pliers to remove both lock rings on the left and right side of the tug. (#62)

Step 6: Remove the Gear (#69), spindle (#70) and spring retainer (#71) on both sides.

Step 7: Use socket #OTC 7157 to remove the locking nut. (#59)

Step 8: Remove the locking ring. (#58)

Step 9: Remove the spindle nut.

Step 10: Slide the rotor & hub assembly off the spindle leaving the bearings inside the hub.

Step 11: Inspect the 6 3/8-24 stover lock nuts using a 9/16 socket.

Maintenance

DANA FRONT AXLE MAINTENANCE

Reassembly Procedure If the Backing Plate & Spindle Were Removed:

Step 1: Install the backing plate with the chamfer facing the spindle. Note: Be sure the backing plate is aligned in the correct position as it was before it was removed.

Step 2: Tighten the 6 new 3/8-24 stover lock nuts to 33ft lbs.

Step 3: Install the rotor & hub assembly making sure the bearing does not fall out.

Step 4: Install the spindle nut with the dowel facing toward you. Tighten to 35ft lbs to seat the bearings while spinning the rotor.

Step 5: Loosen the spindle nut and re-snug.

Step 6: Install the lock ring making sure the hole in the ring lines up with the dowel on the nut. If it does not, rotate the nut so the dowel is aligned.

Step 7: Install the lock nut and torque to 50ft lbs.

Step 8: Install the spring seat with the flat part facing toward you.

Step 9: Install the spring, the gear and the clip.

Step 10: Apply a small amount of RTV sealant to the cap and install.

Step 11: Install the caliper.

Step 12: Install the tires and lug nuts and torque the nuts to 90ft lbs.

Revision Log

Rev	Date	Description	Appr.
7	16-May-2013	Revised aluminum radiator part number, revised transmission mount part number, added exhaust bracket part number.	PRB
8	10-Jun-2013	Revised exhaust system design.	PRB
9	29-Aug-2013	Replaced cab wiring schematic	SEB
10	24-Sep-2013	Revised 80A alternator part number and alternator excite wiring/installation	PRB
11	30-Oct-2013	Added key switch and key switch bracket part numbers	PRB
12	20-Nov-2013	Removed Warranty Statement	SEB
13	16-Dec-2013	Added note on standard tire sizes.	PRB
14	26-Feb-2014	A-TT4-00119 Nylon Washer was obsoleted	PRB
15	24-Jun-2014	Added dual analog throttle pedal, added new steering shaft assembly, added new power steering reservoir, made several minor corrections.	PRB
16	21-Jul-2014	Added relay part numbers to Tier3 engine harness	PRB
17	04-Aug-2014	Updated throttle pedal part number	PRB
18	05-Aug-2014	Updated tire part numbers and descriptions	PRB
19	21-Aug-2014	Corrected engine dress part numbers. Updated preventive maintenance schedule. Added H30 display/controller (obsolete) information for historical data. Updated engine thermostat part number. Relocated filter reference chart. Added historic throttle pedal replacement information.	SEB
20	10-Oct-2014	Updated from axle saddle clamp and U-bolt part numbers	PRB
21	20-Oct-2014	Power steering reservoir superseded by new version, new schematic for dual-analog throttle pedal, corrected brake line labels	PRB
22	05-Nov-2014	Updated fuel fitting, coolant overflow hose size	PRB
23	25-Nov-2014	Added brake linkage clevis washers	PRB
24	12-Jan-2015	Updated transmission for new housing type	PRB
25	20-Feb-2015	Updated Tier III wiring schematic	PRB
26	24-Feb-2015	Updated lubricity filter parts and fuel system diagram	DCM
27	07-Apr-2015	Corrected engine dress. Listed part number for oil pressure switch. Corrected hardware size, several locations. Corrected relay part number, hydraulic fitting, and engine oil capacity. Added steering fluid fill procedure.	DCM